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VOLUME 2(U) AIR WEATHER SERVICE SCOTT AFB IL  
J C SADLER ET AL. JAN 84 AWS/TR-83/002-VOL-2 F/G 4/2  
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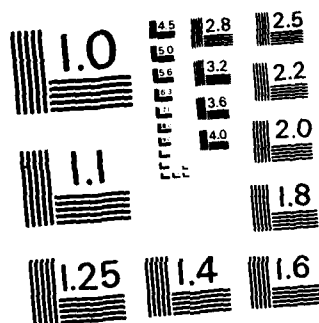
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AWS/TR-83/002

VOLUME II



# MEAN UPPER TROPOSPHERIC FLOW OVER THE GLOBAL TROPICS

BY

James C. Sadler,  
University of Hawaii

and

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Headquarters AWS

JANUARY 1984

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| <p>Upper air climatology over the tropics is a powerful forecast tool. This technical report consists of mean monthly 200- and 300-mb wind charts for the global tropics. Volume I is a brief discussion on how the charts were developed, the significant climatological features, and their use. Volume II contains the maps. In day-to-day use the forecaster must identify the location of key synoptic features and adjust the forecast to these features. This requires an understanding of these features, their persistence, and their relative effect on sensible weather.</p> |       |  |   |  |               |
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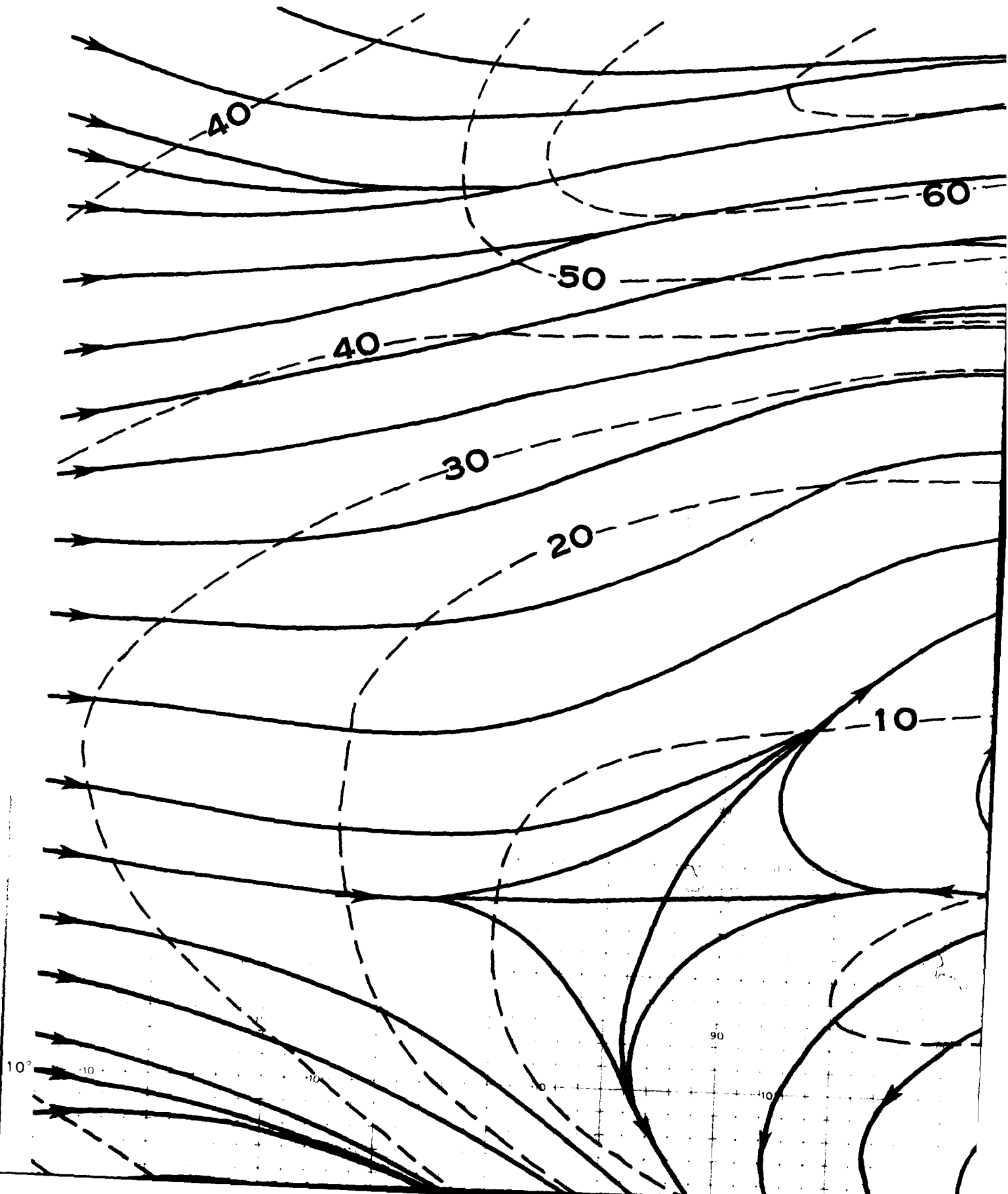
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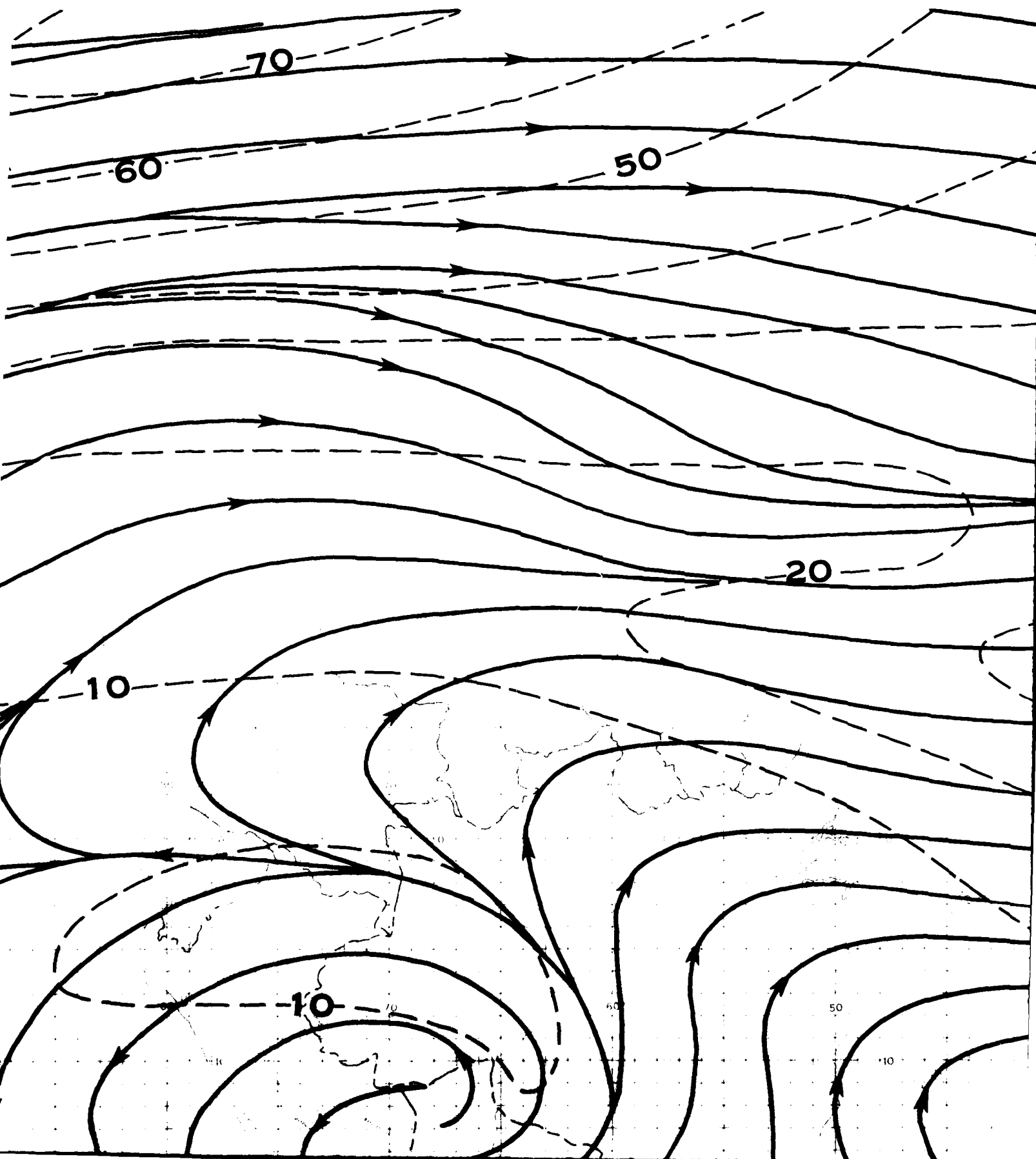
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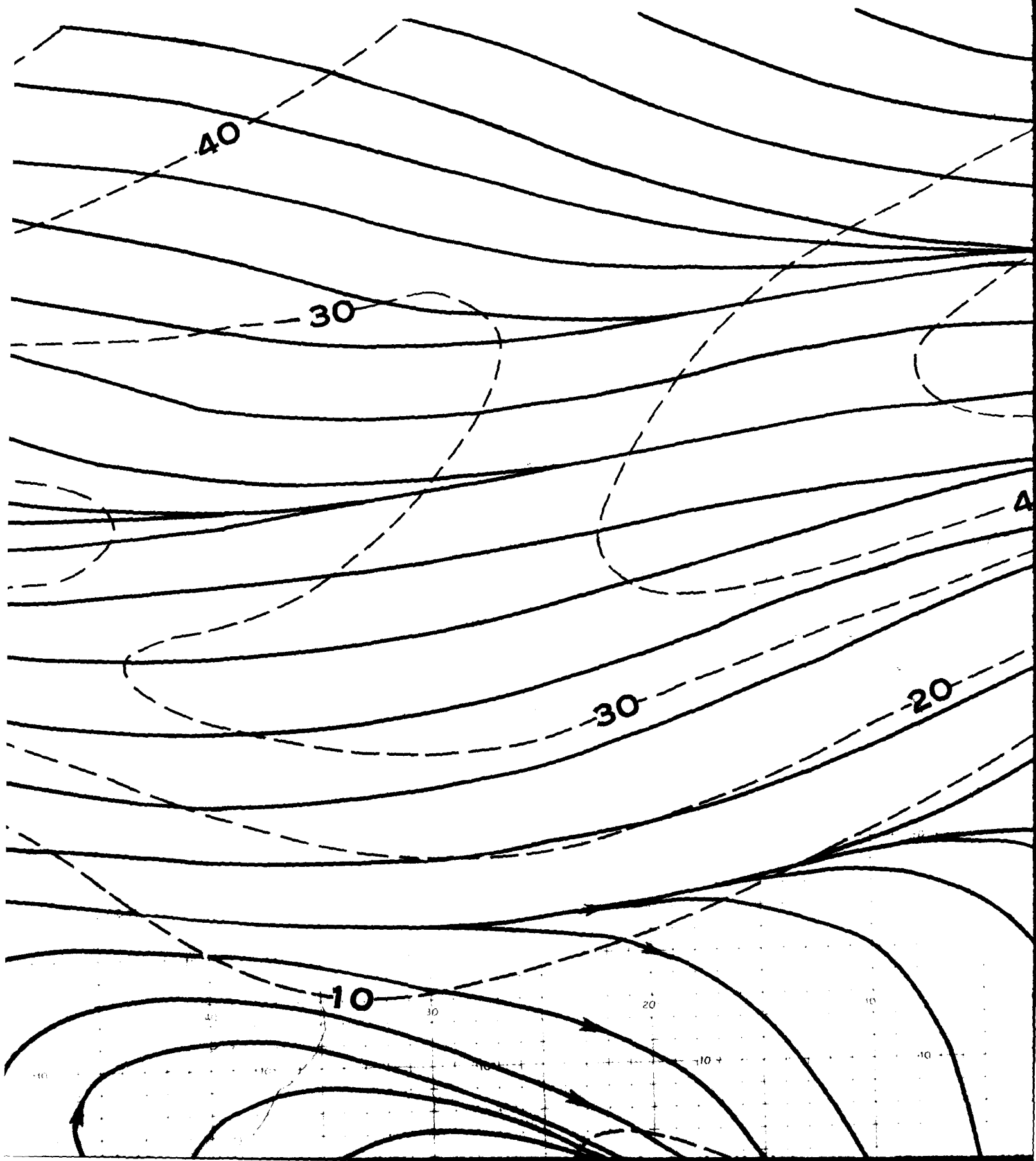
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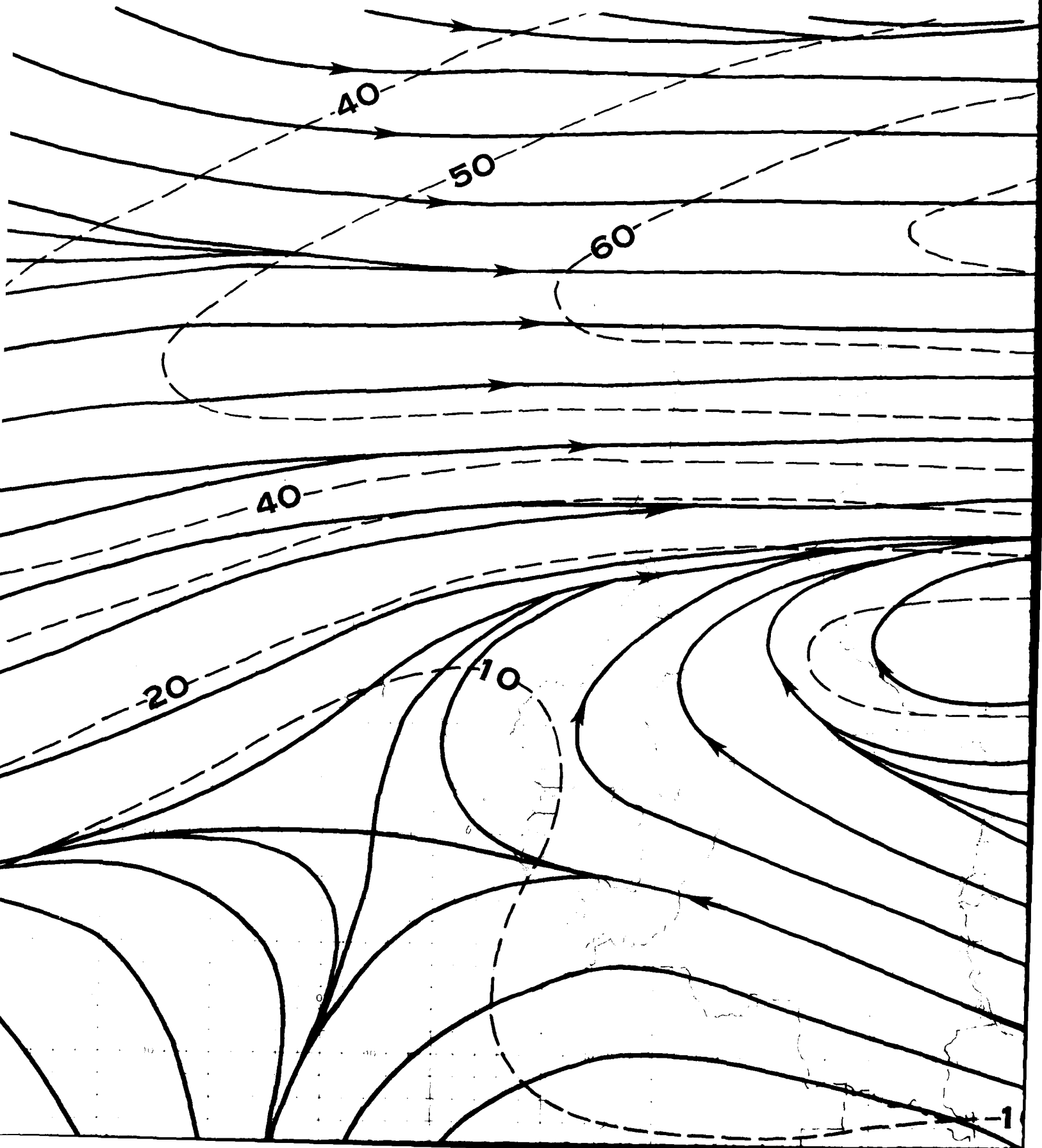
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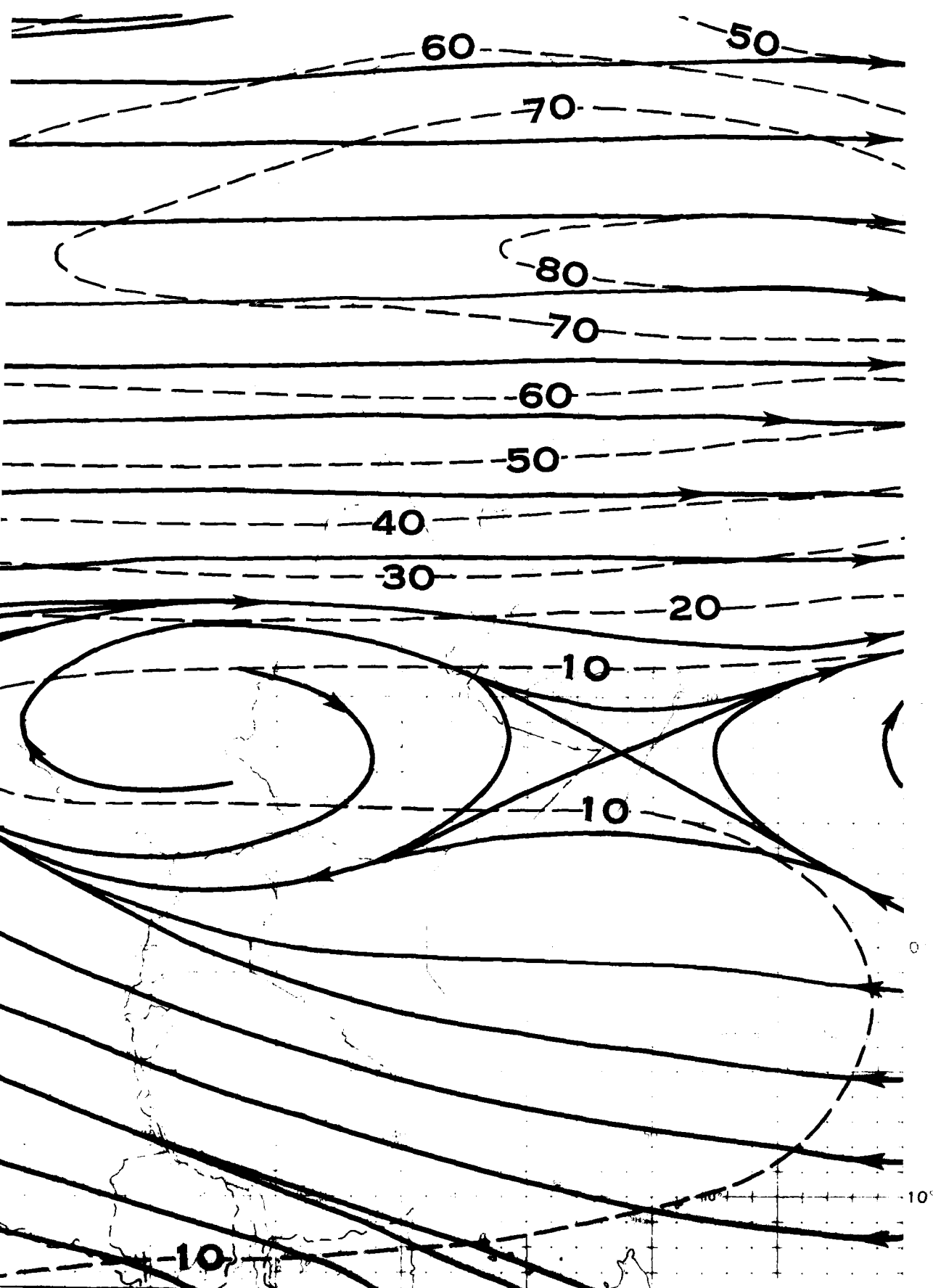


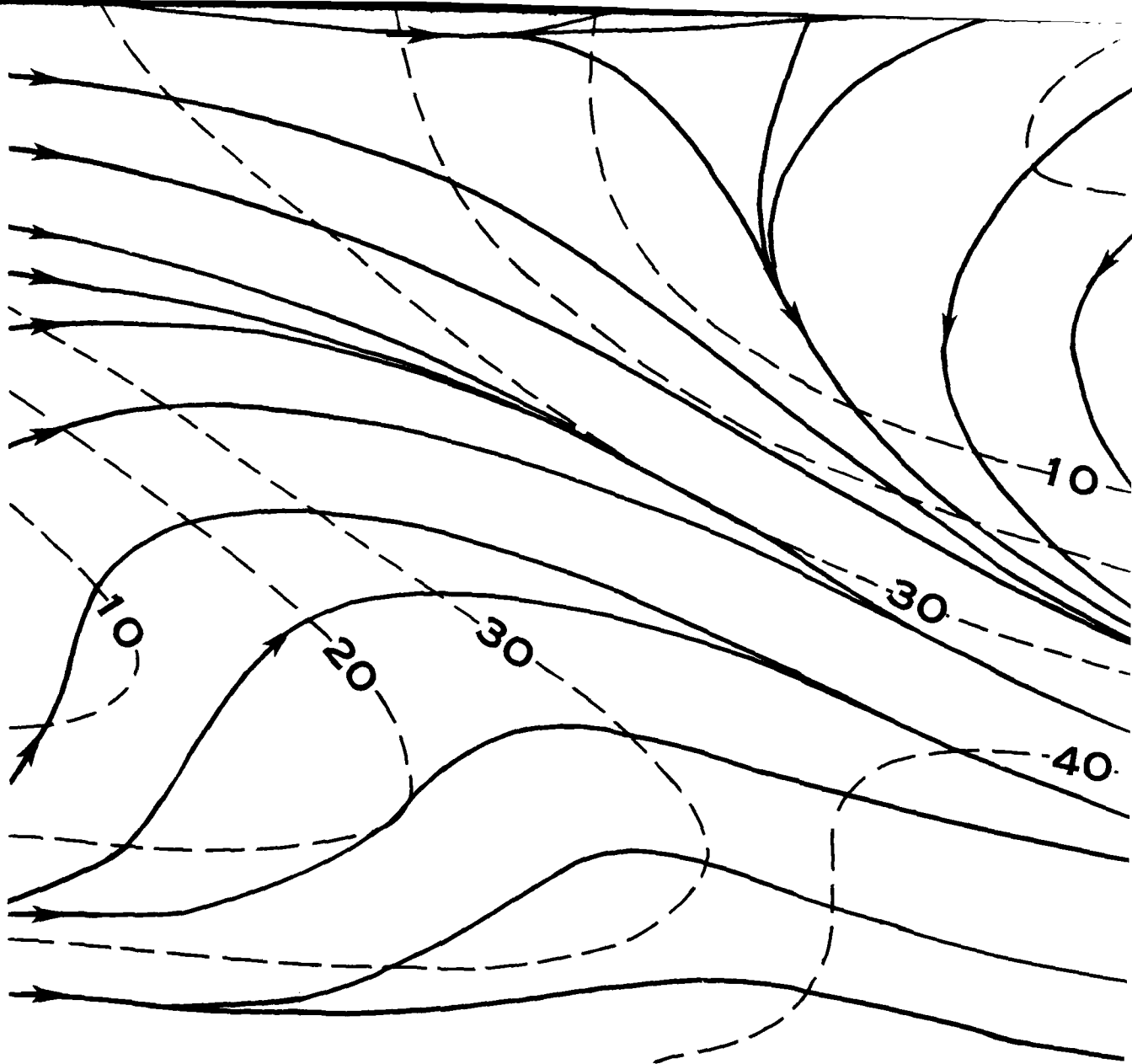
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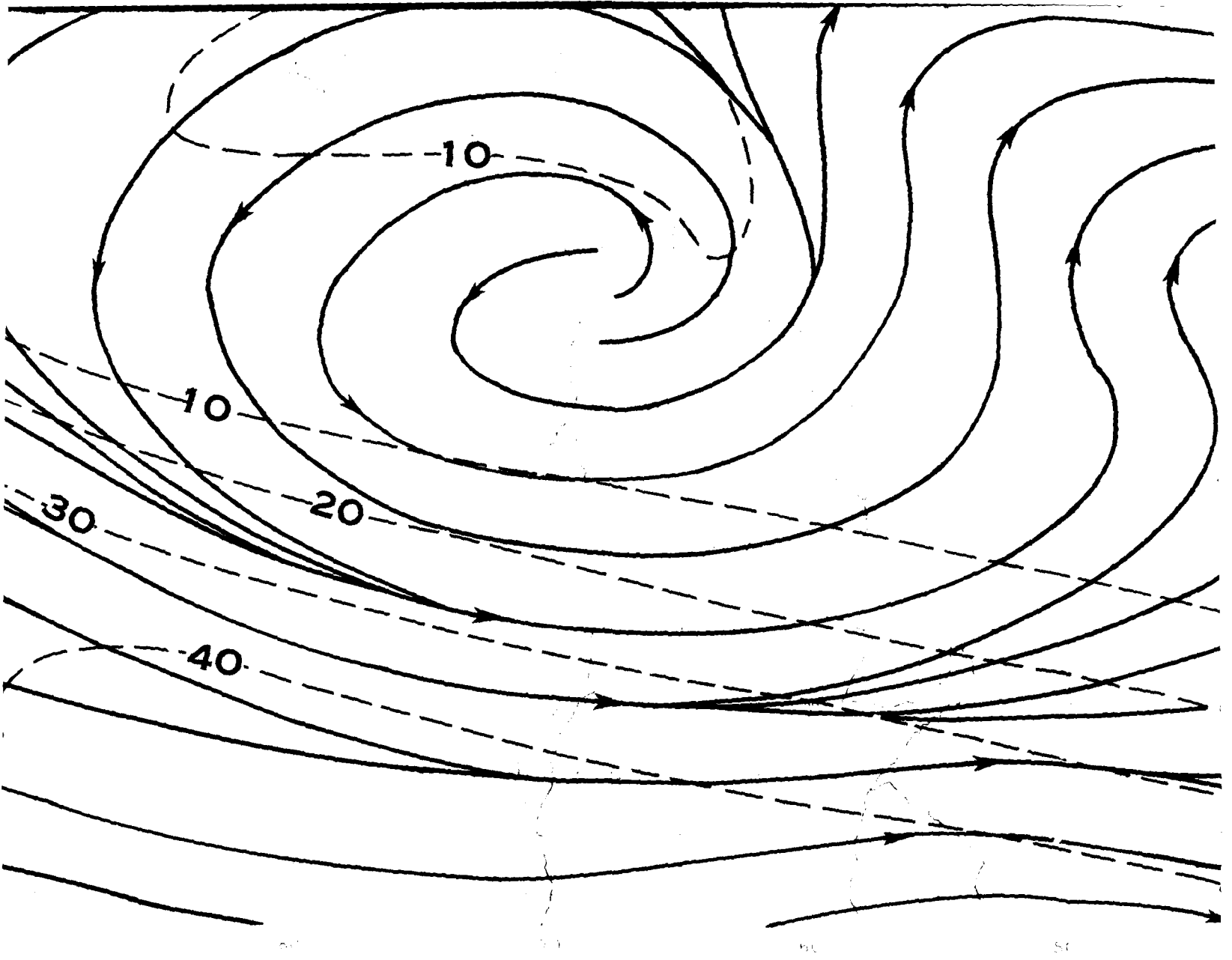


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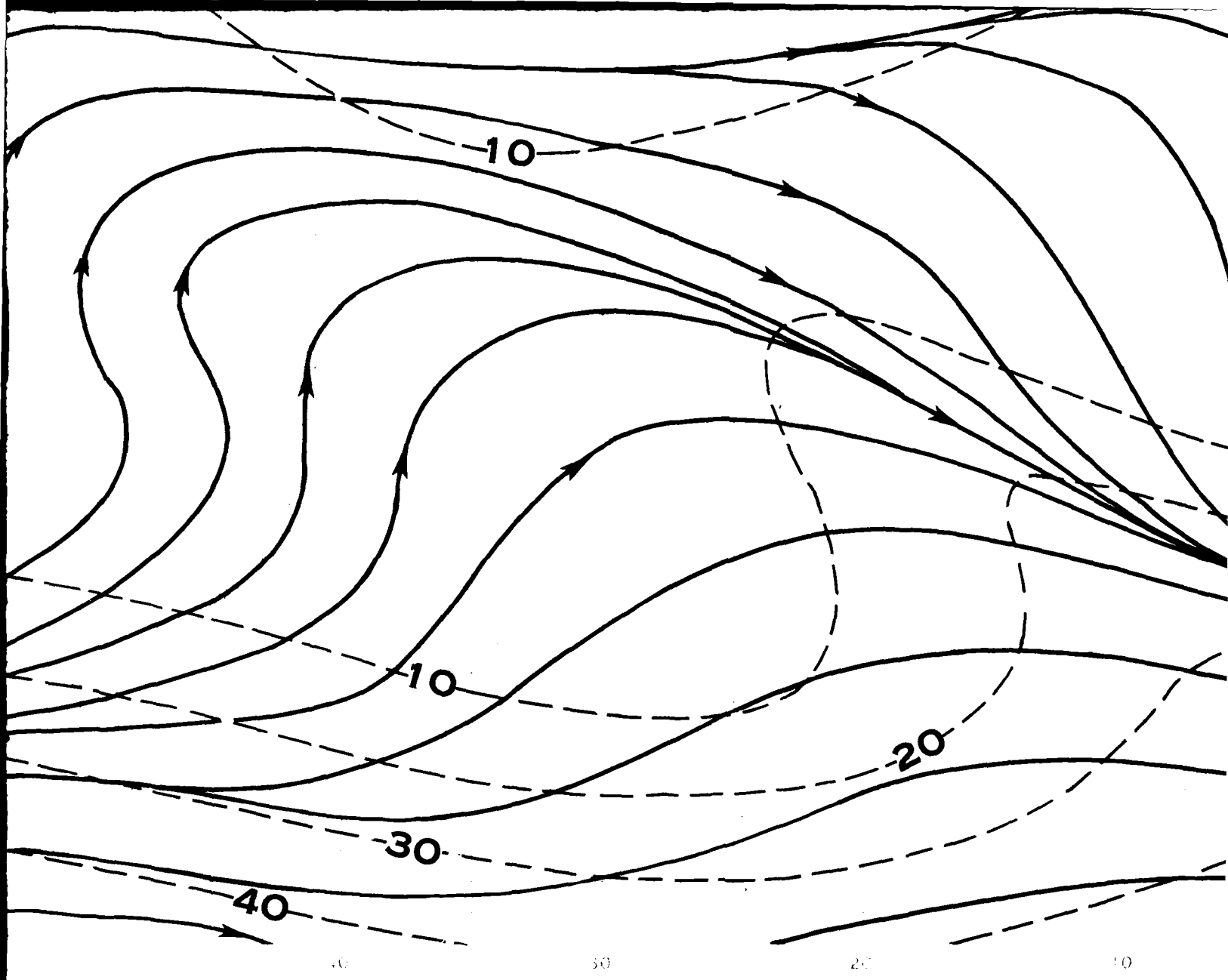




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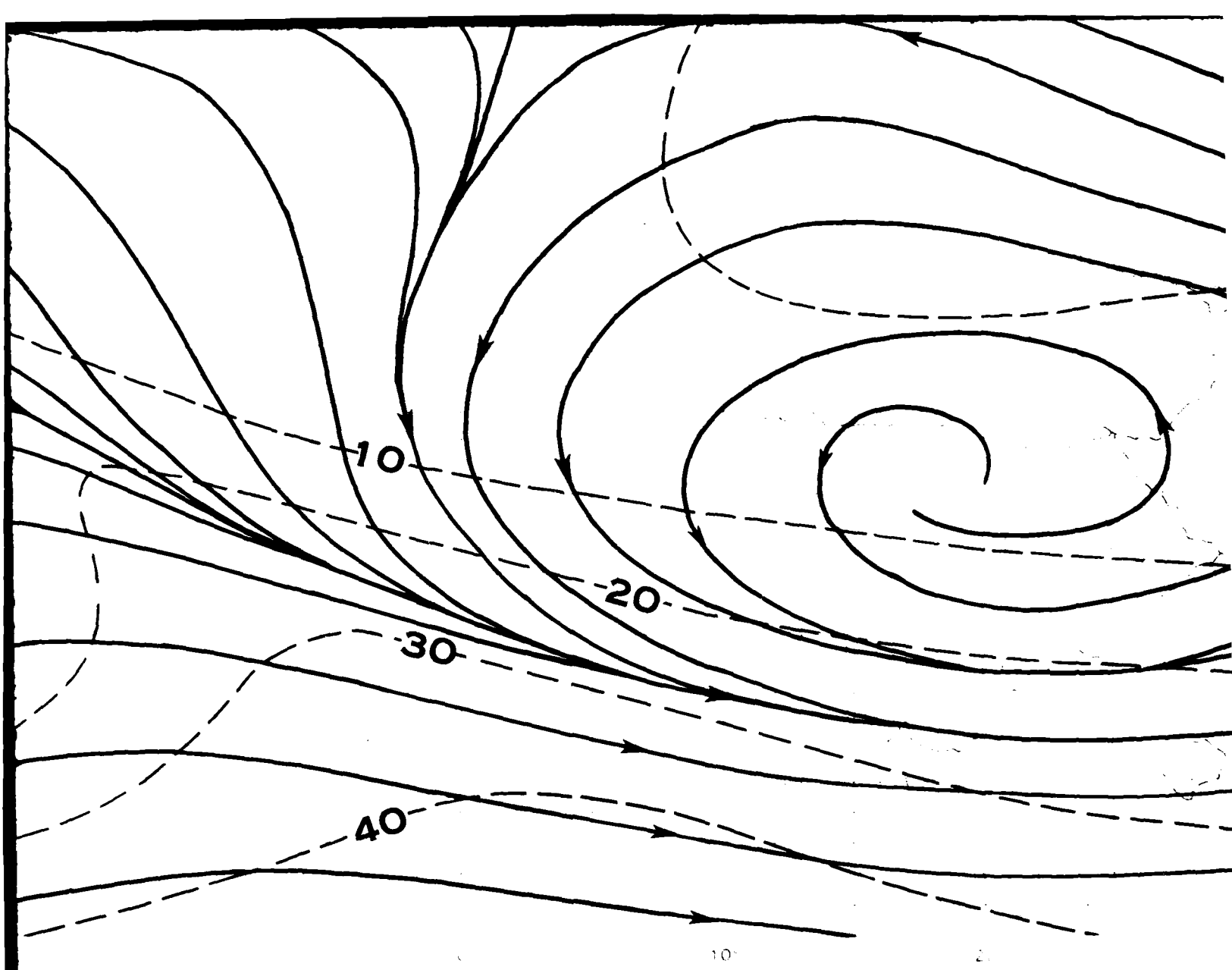


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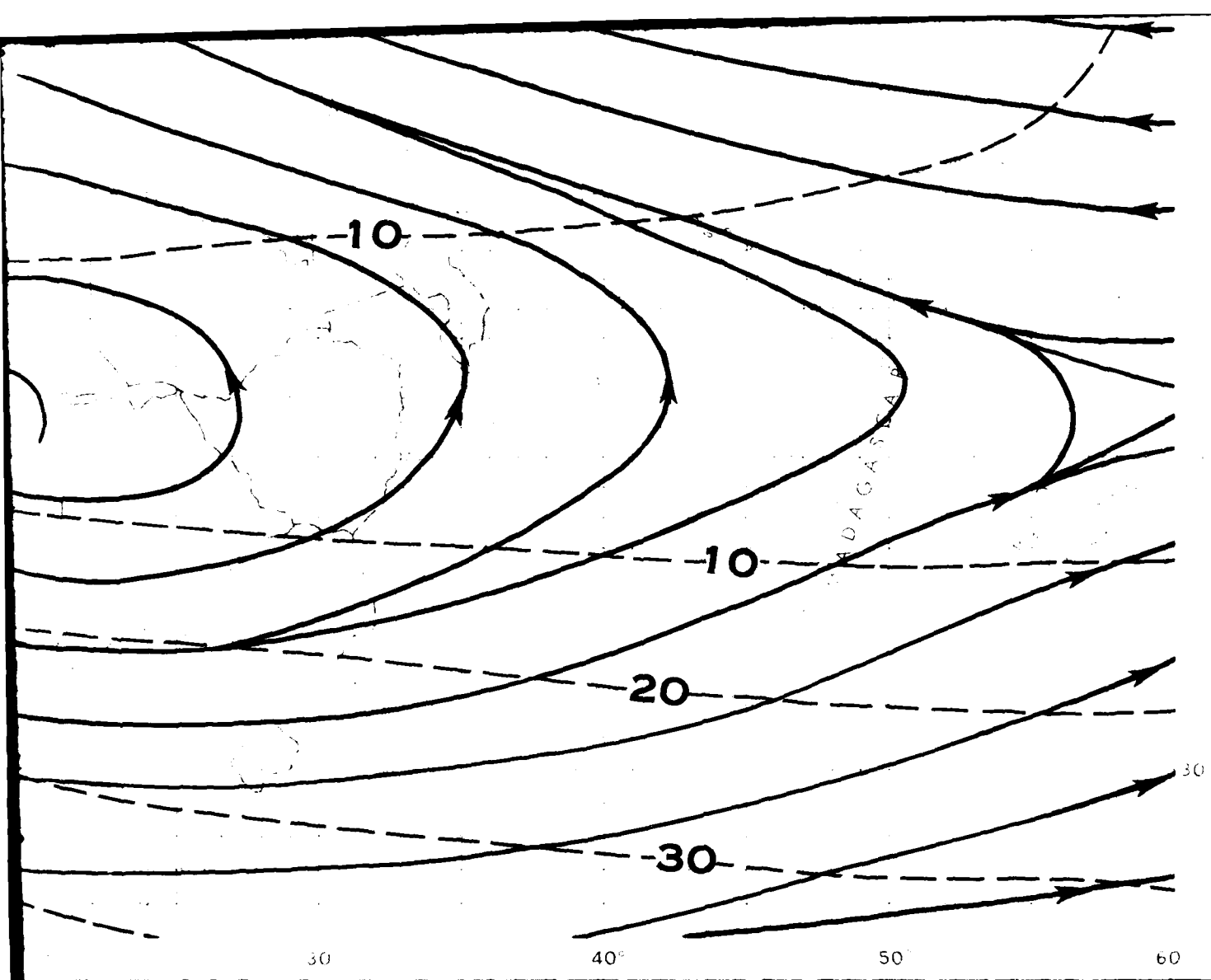


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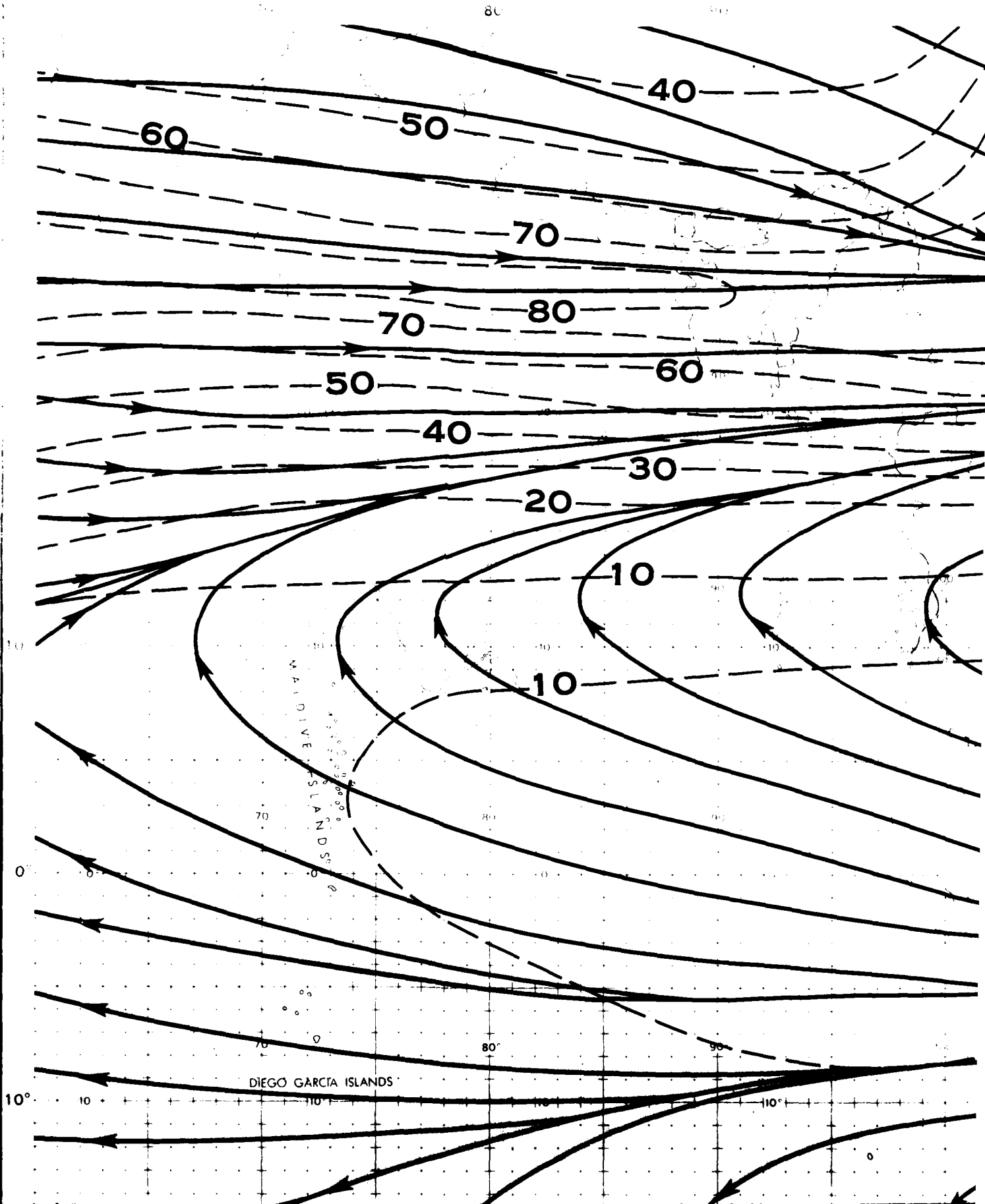
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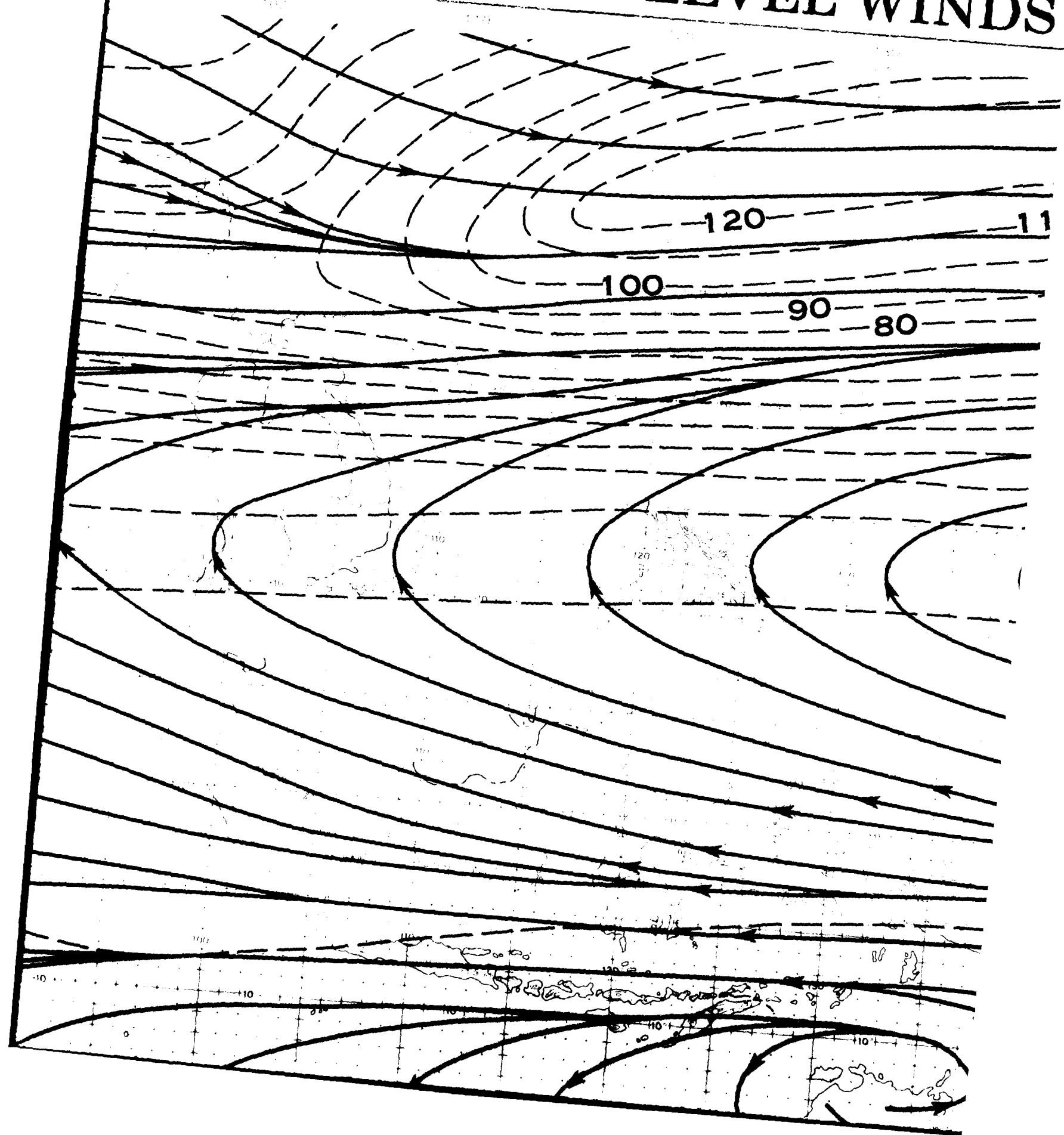
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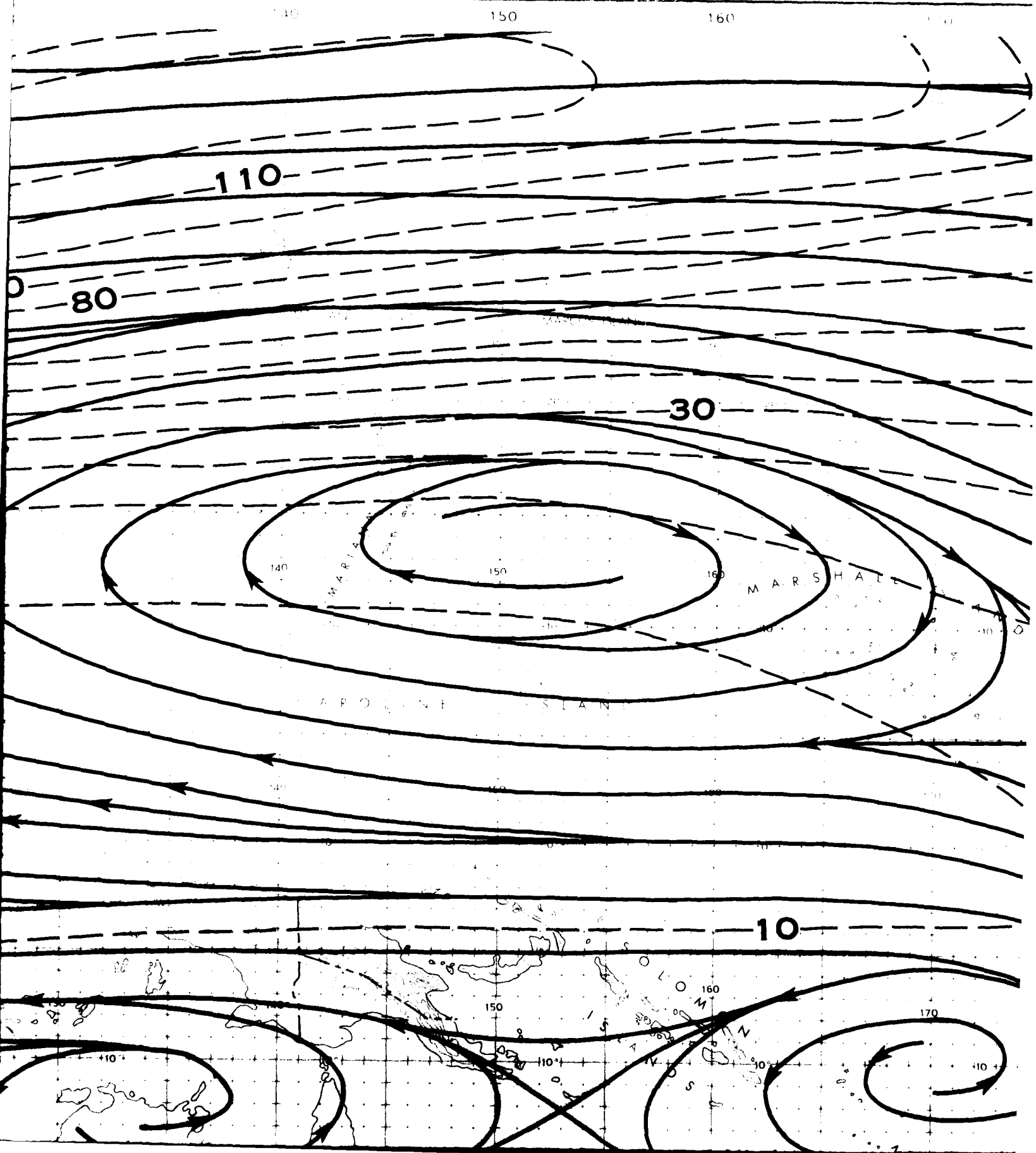


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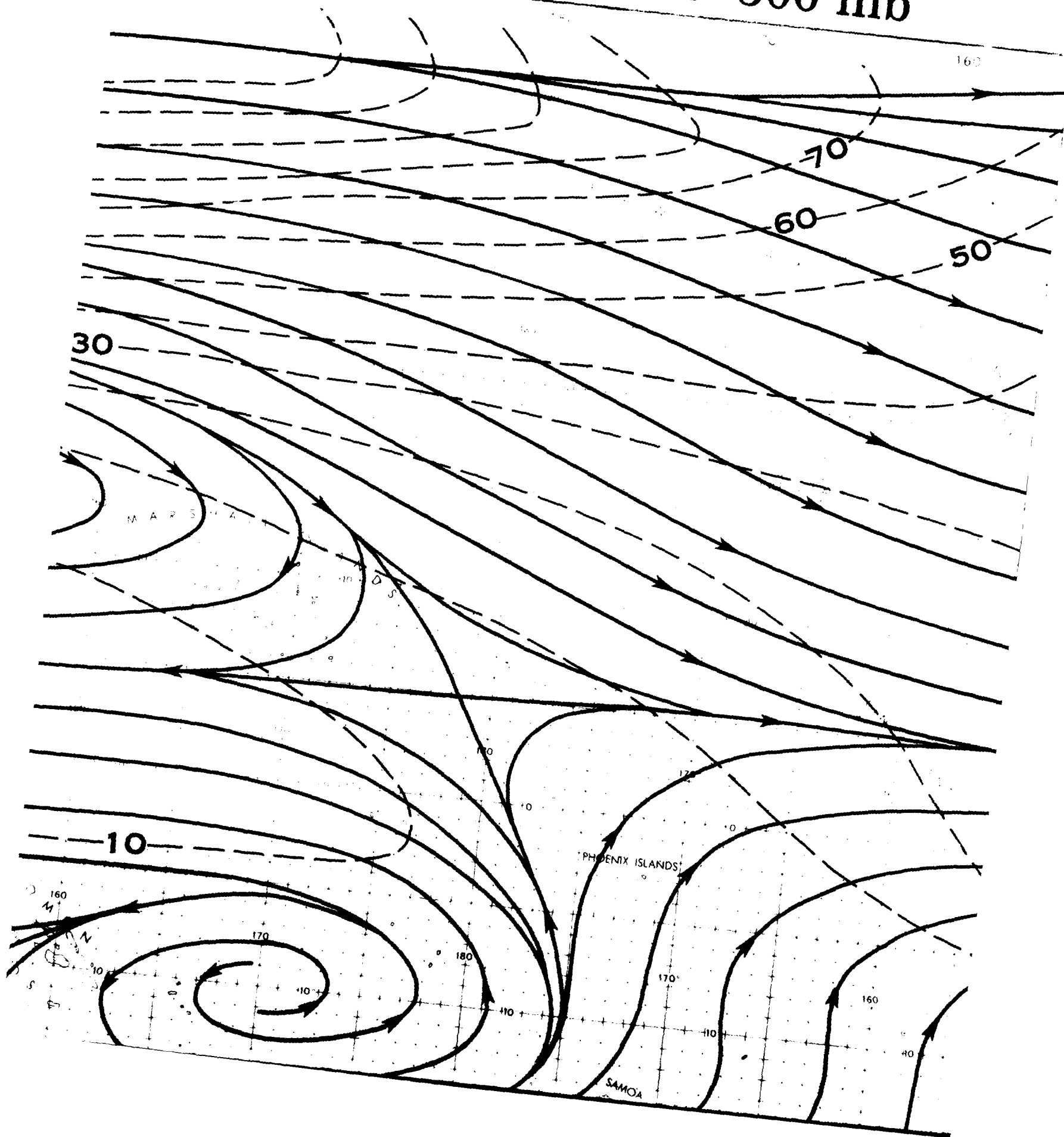


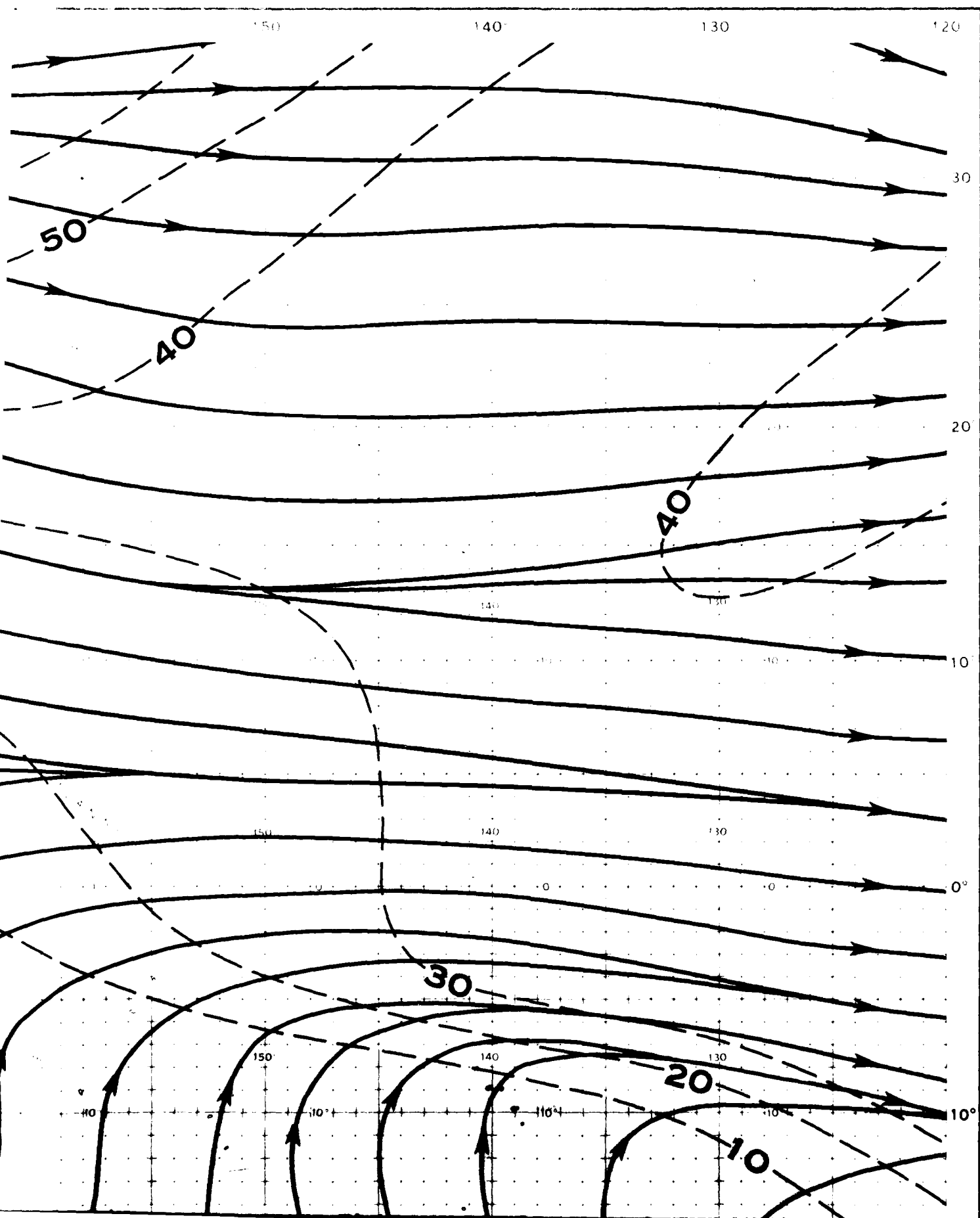


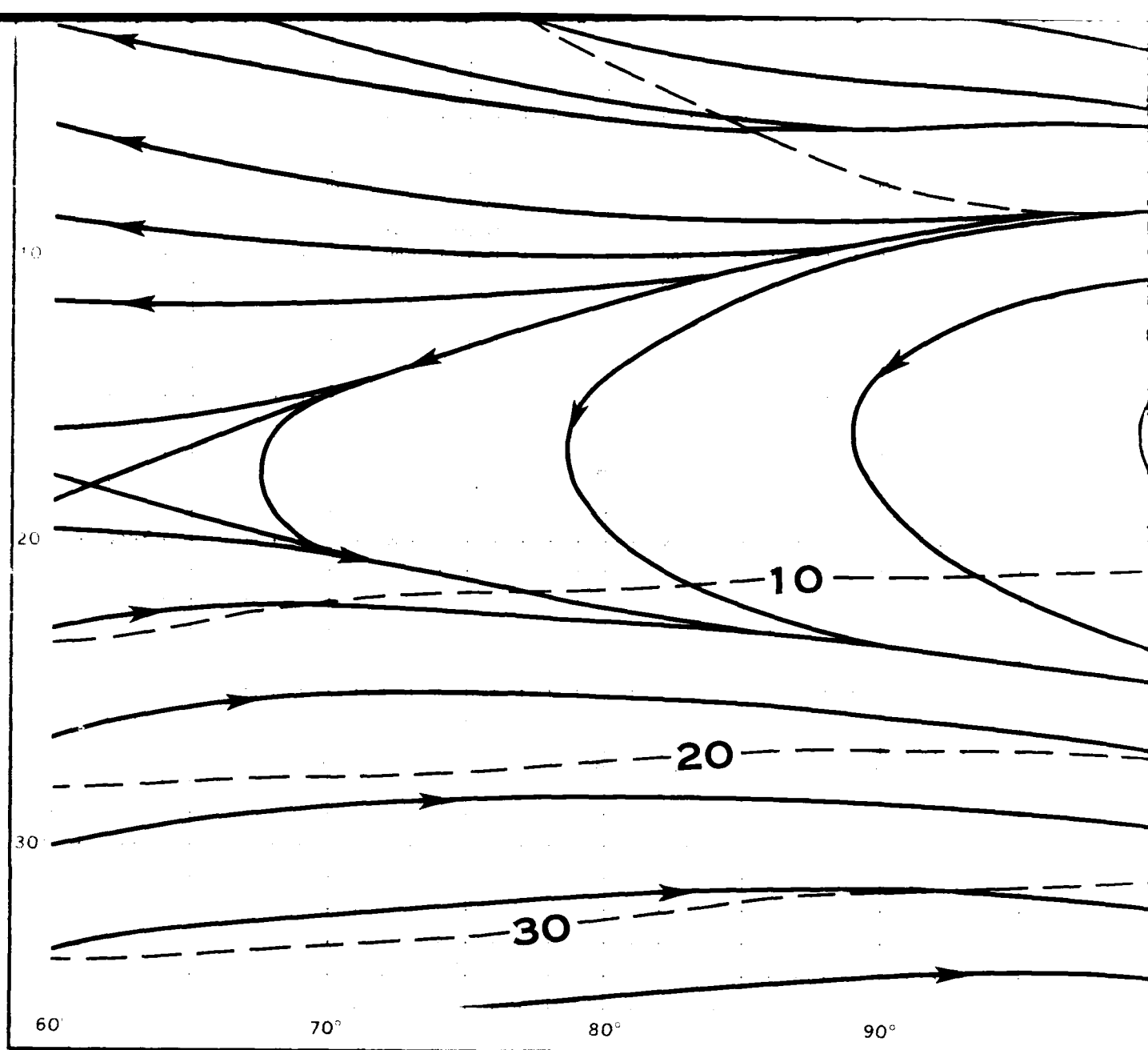
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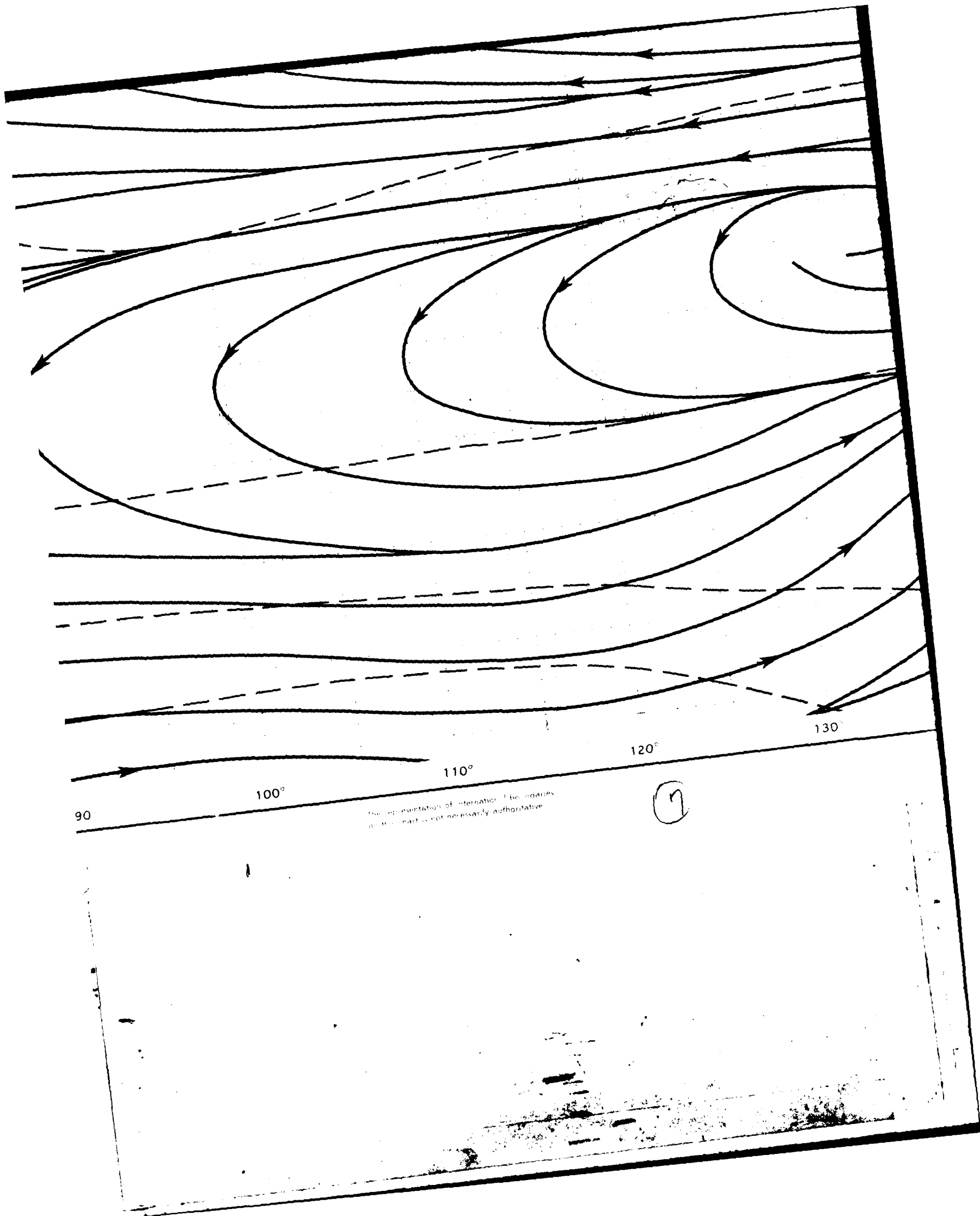


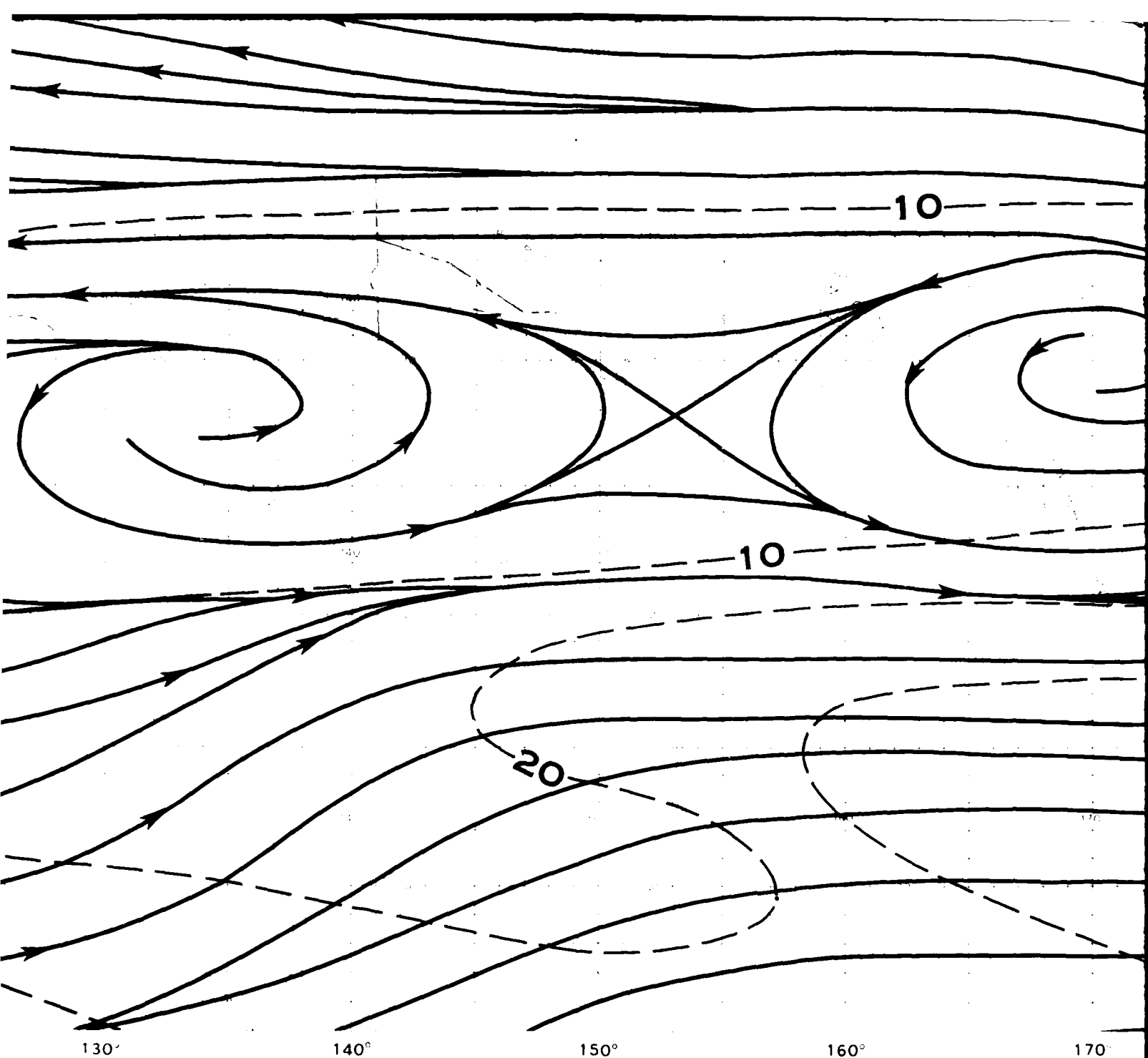


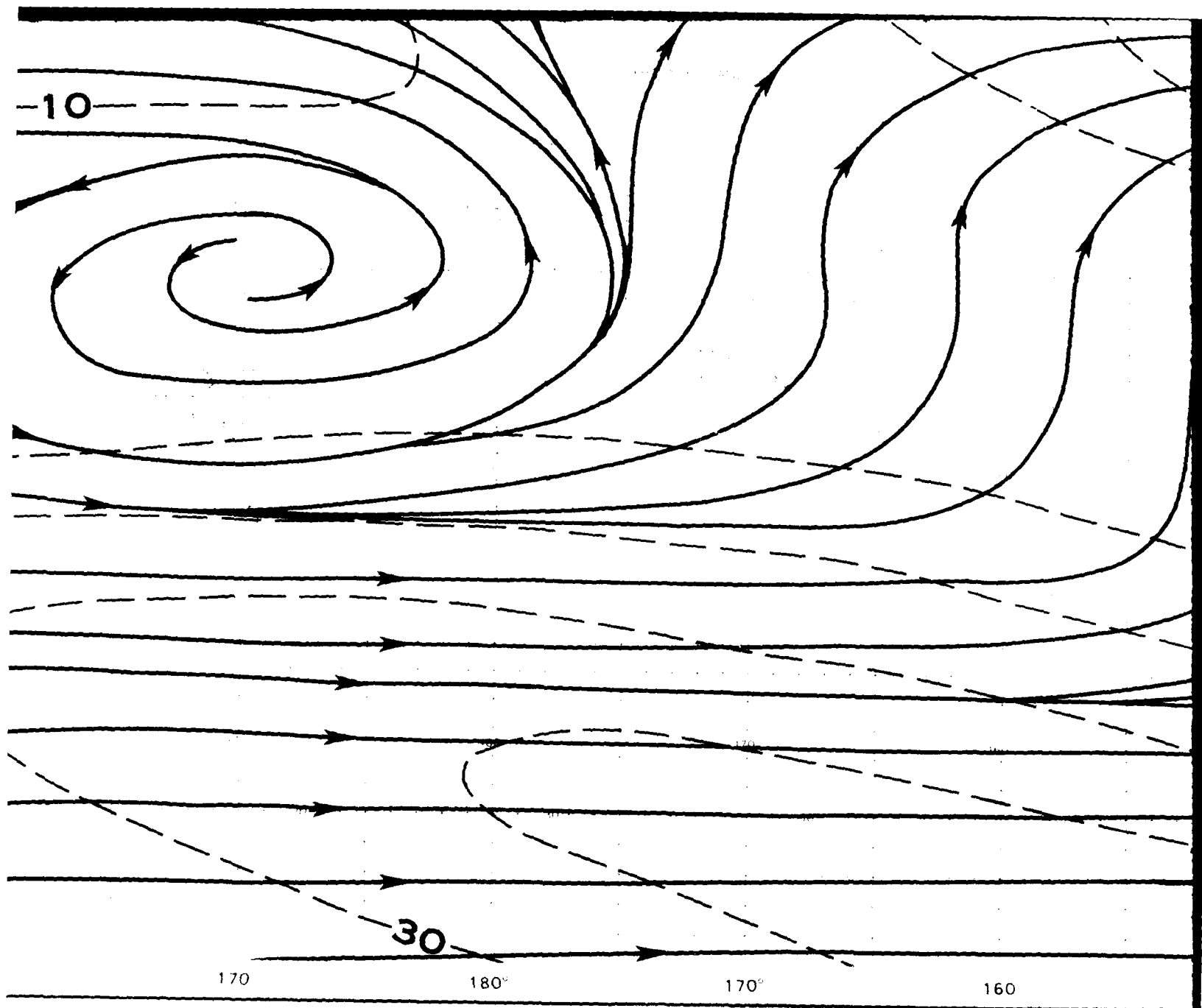
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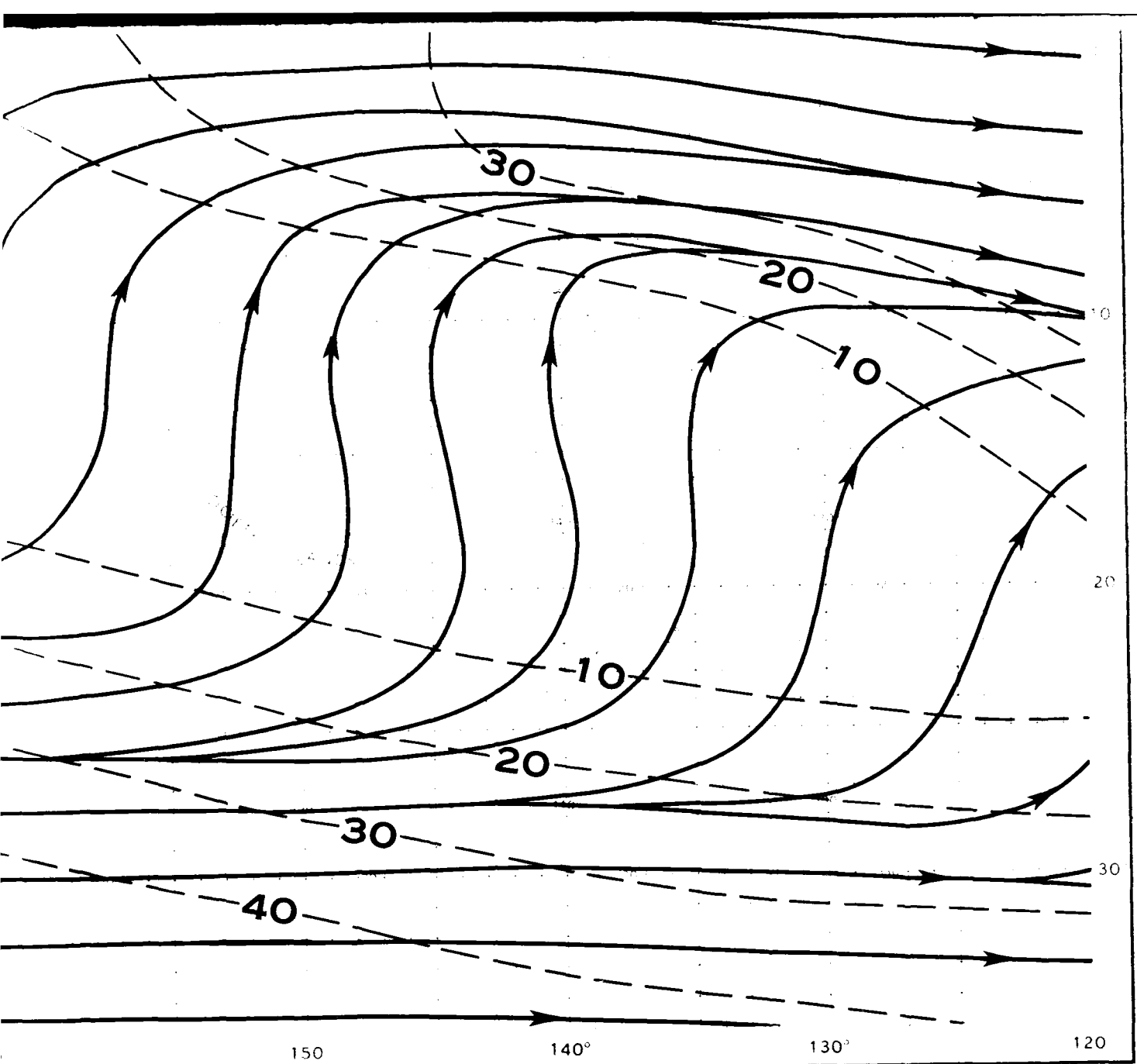






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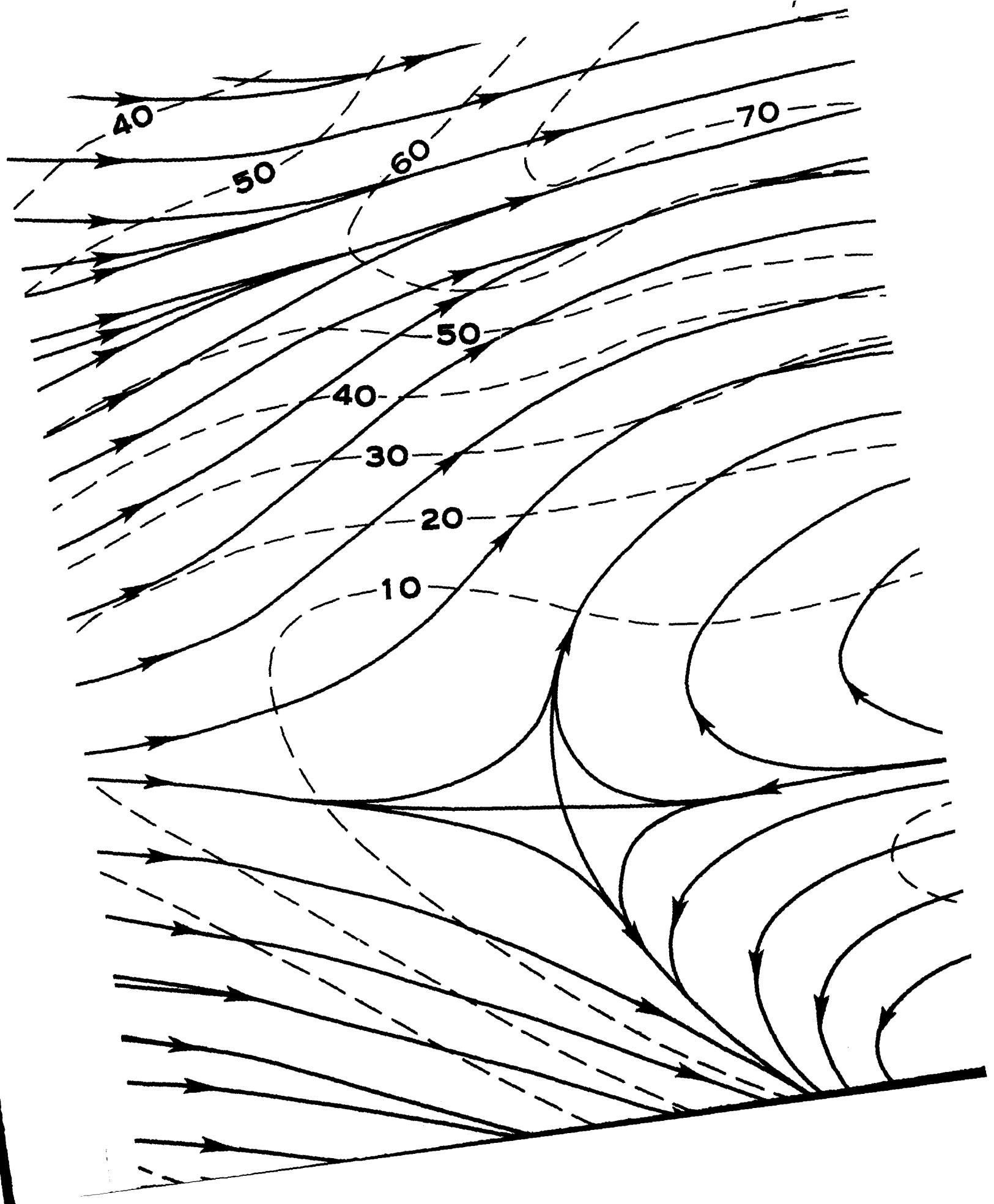
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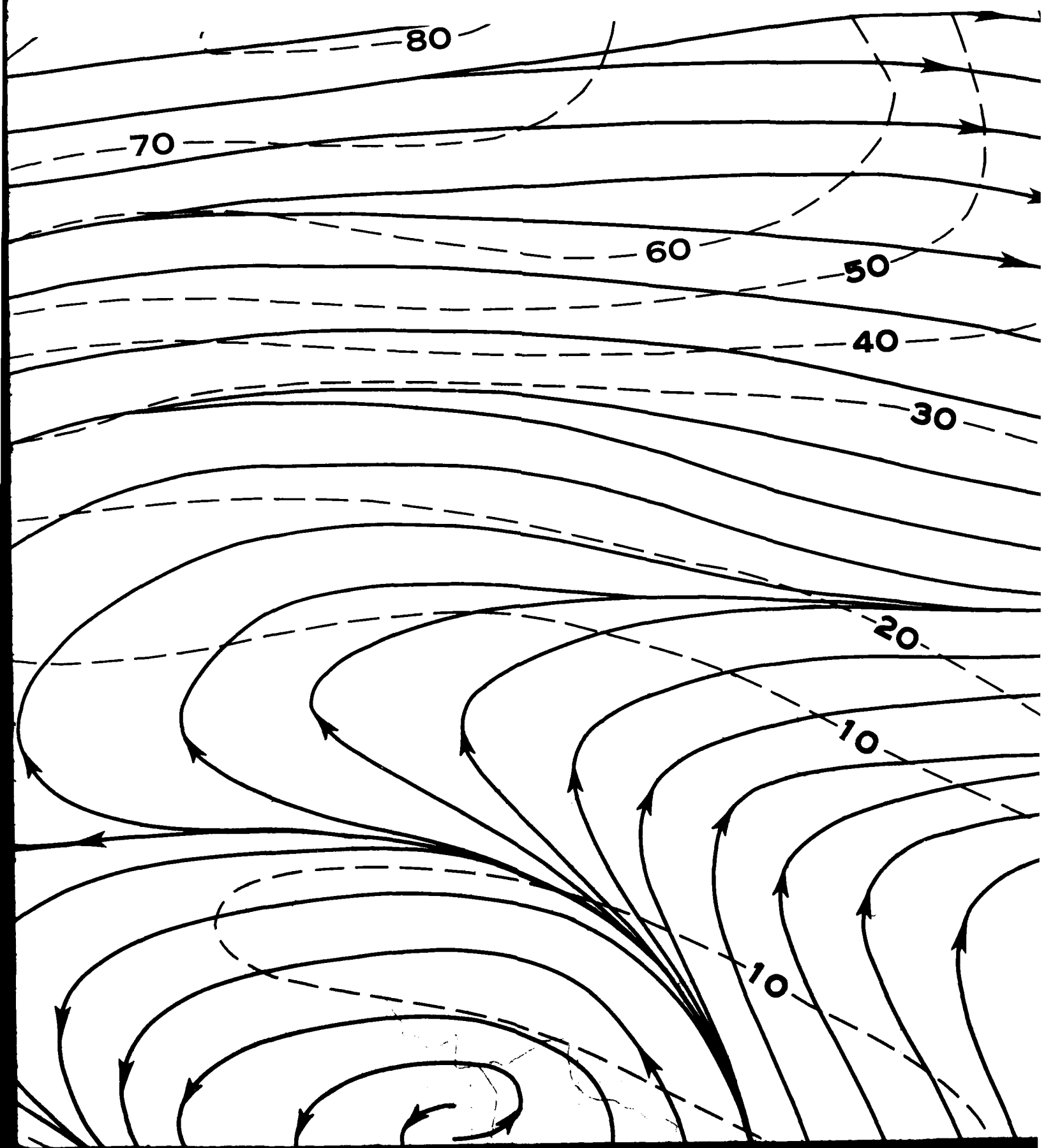
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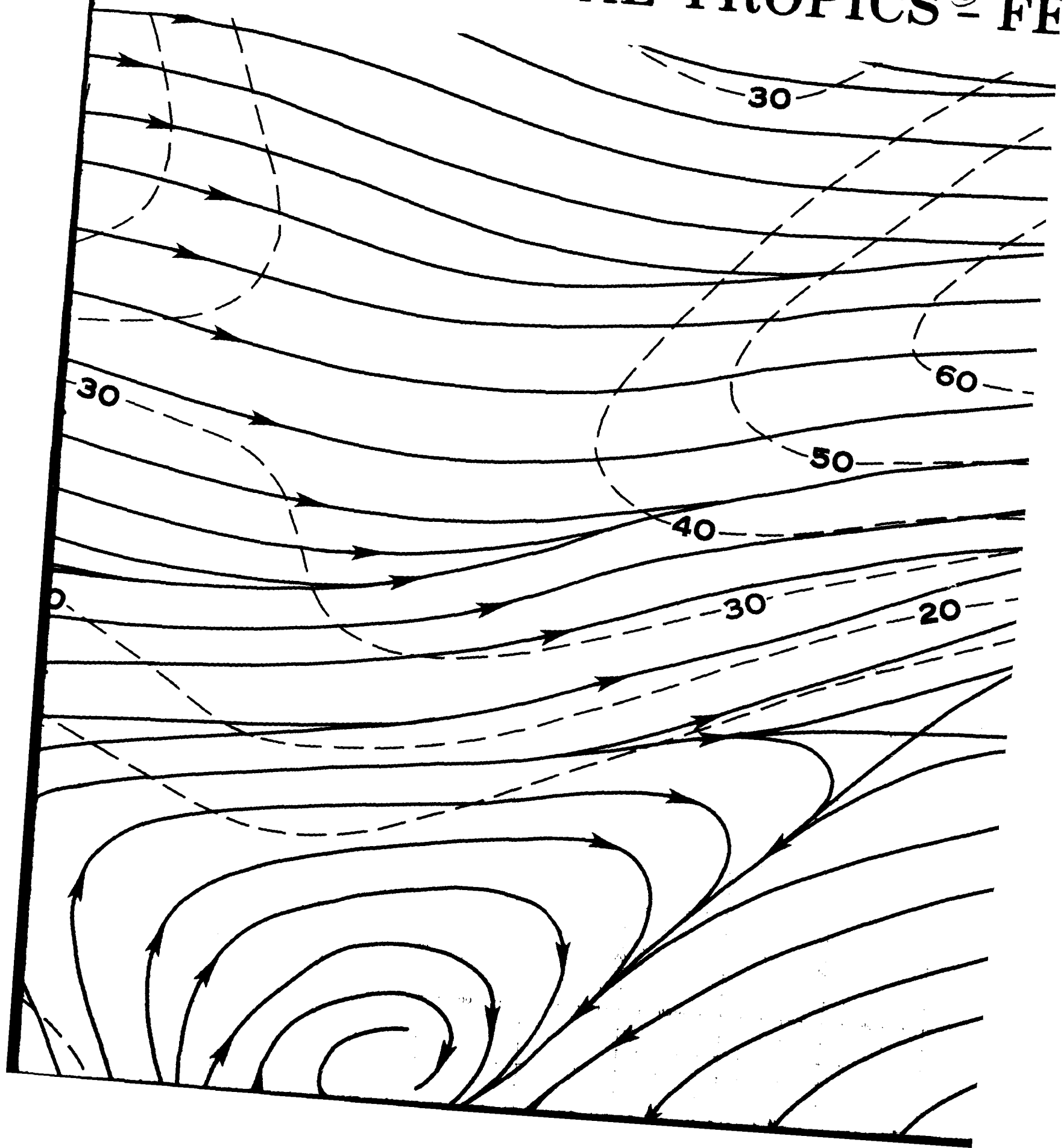
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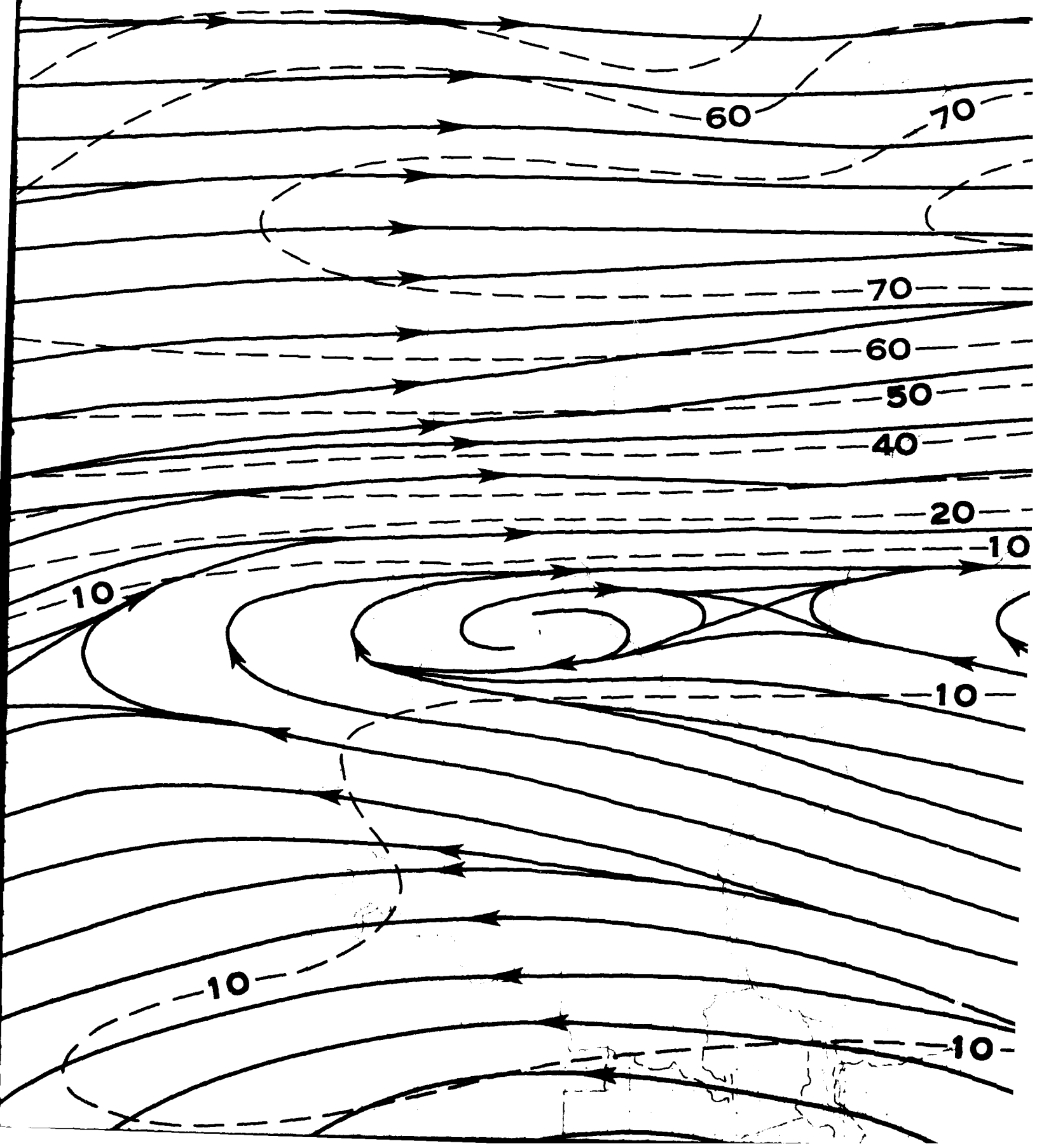


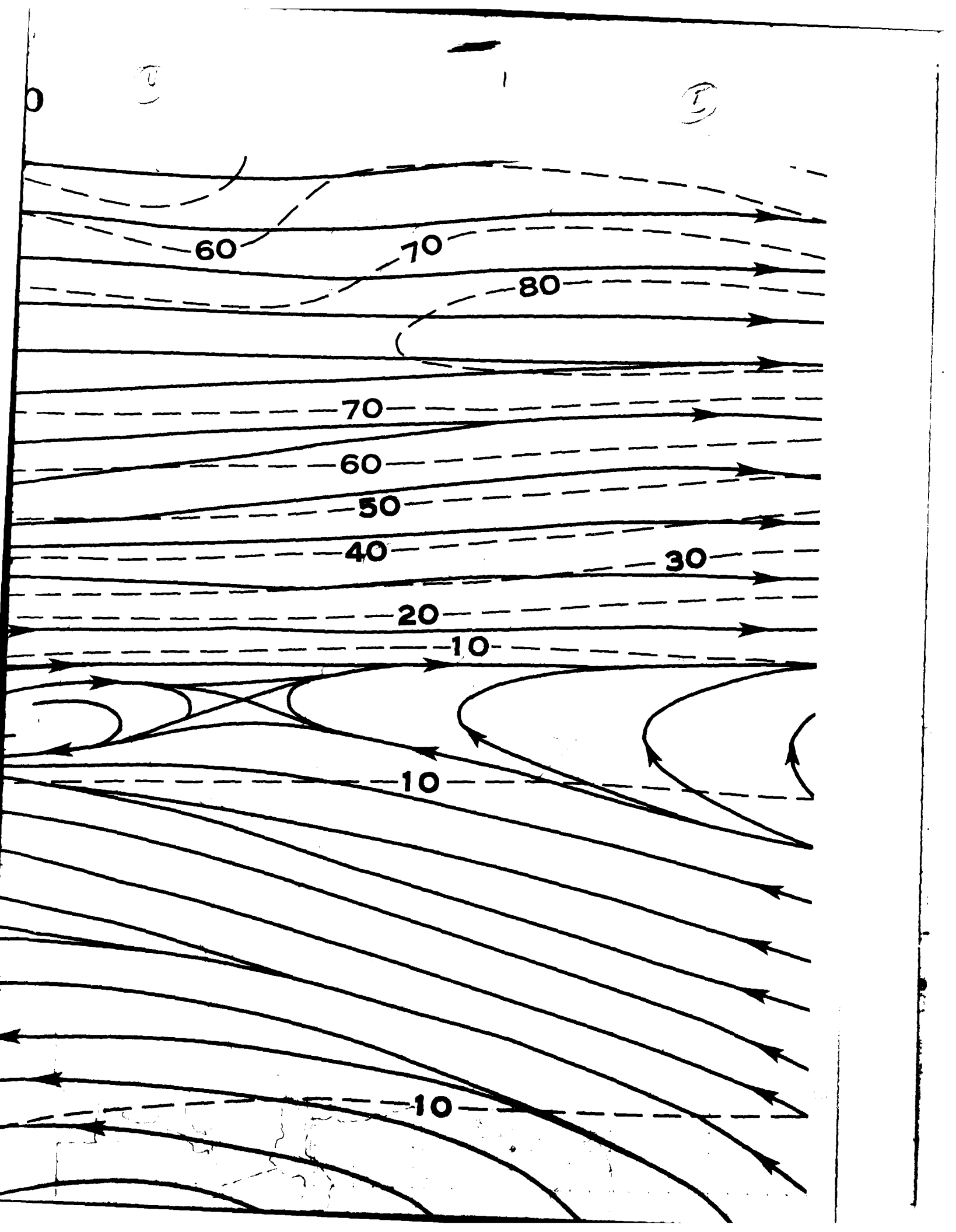
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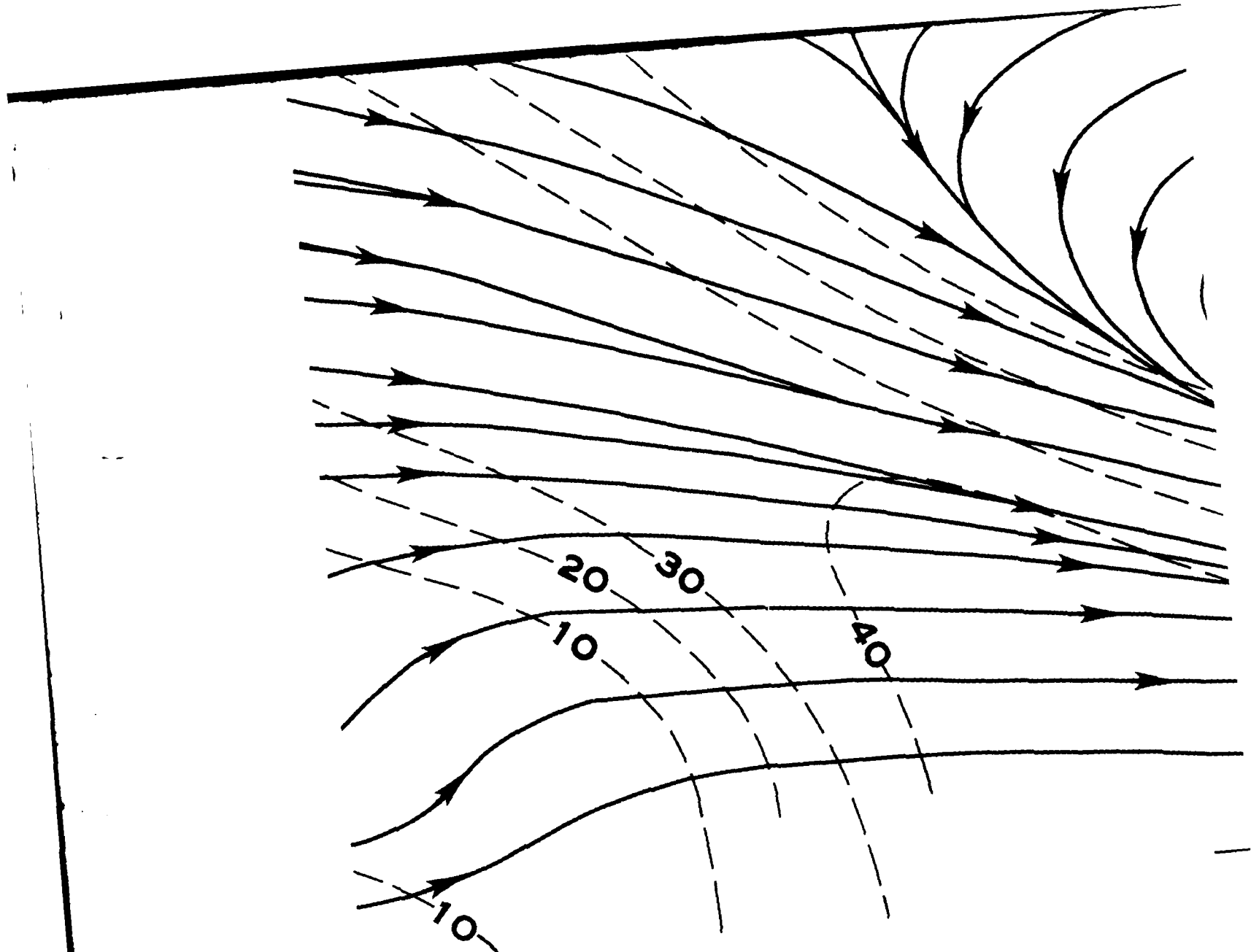


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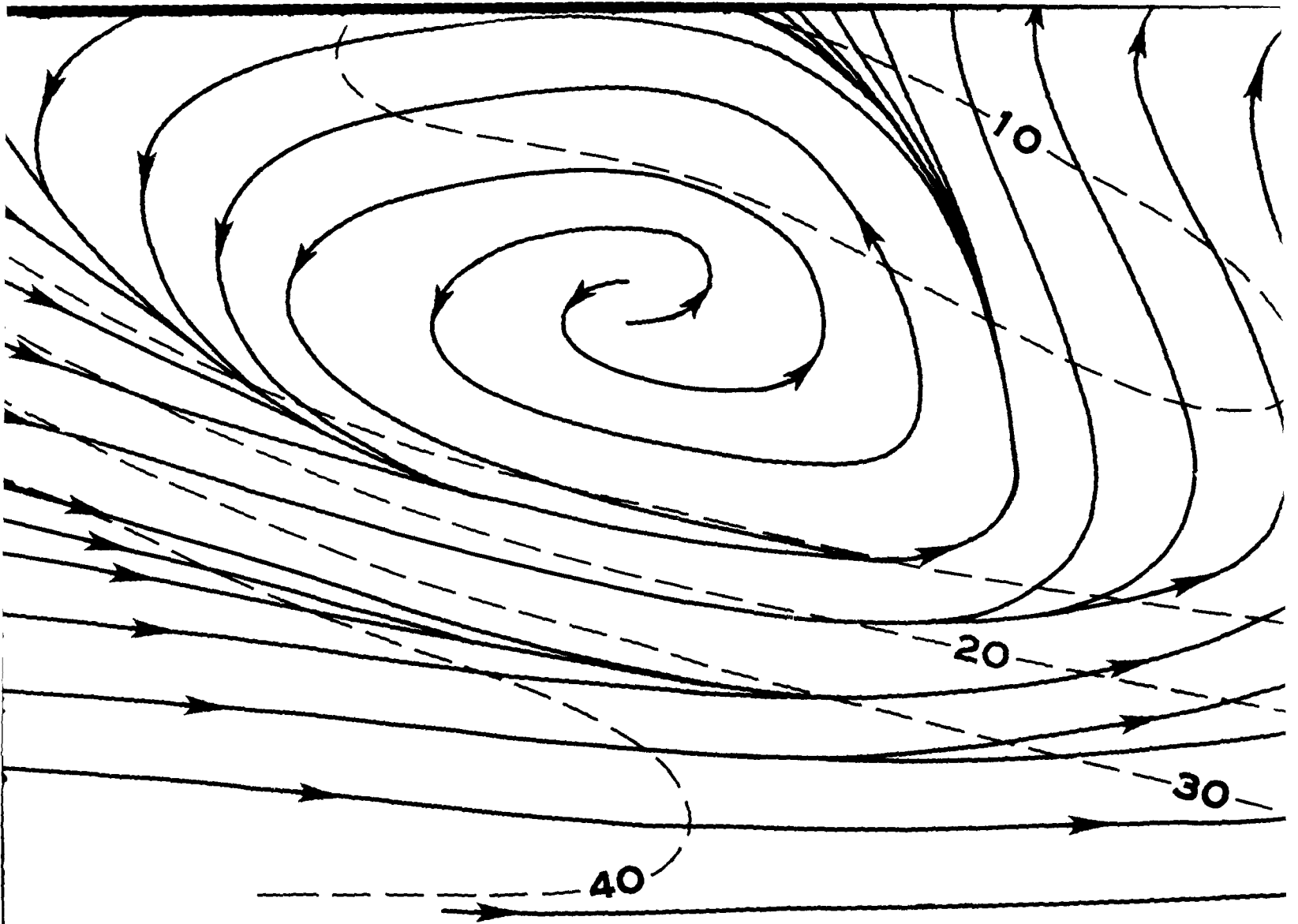
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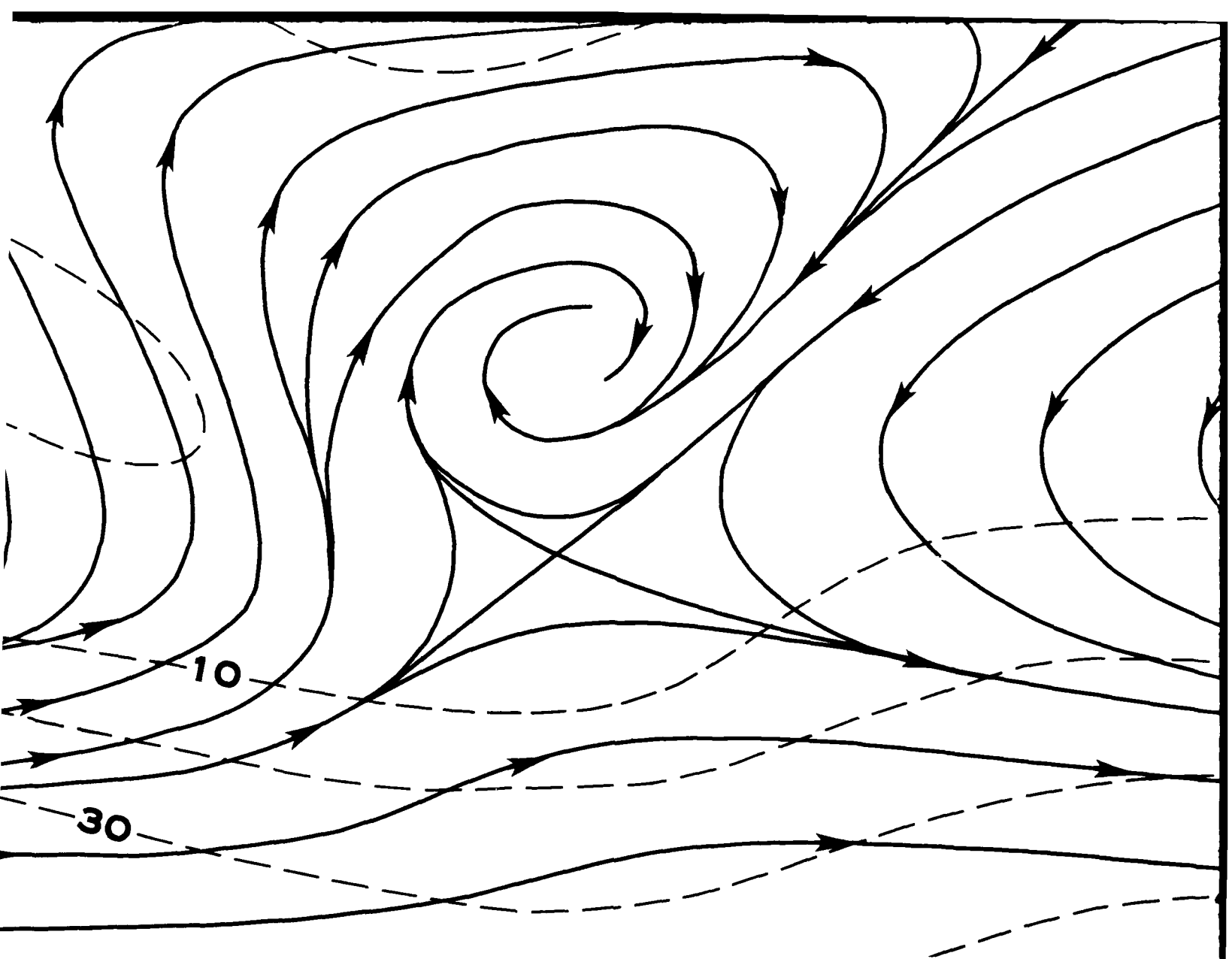




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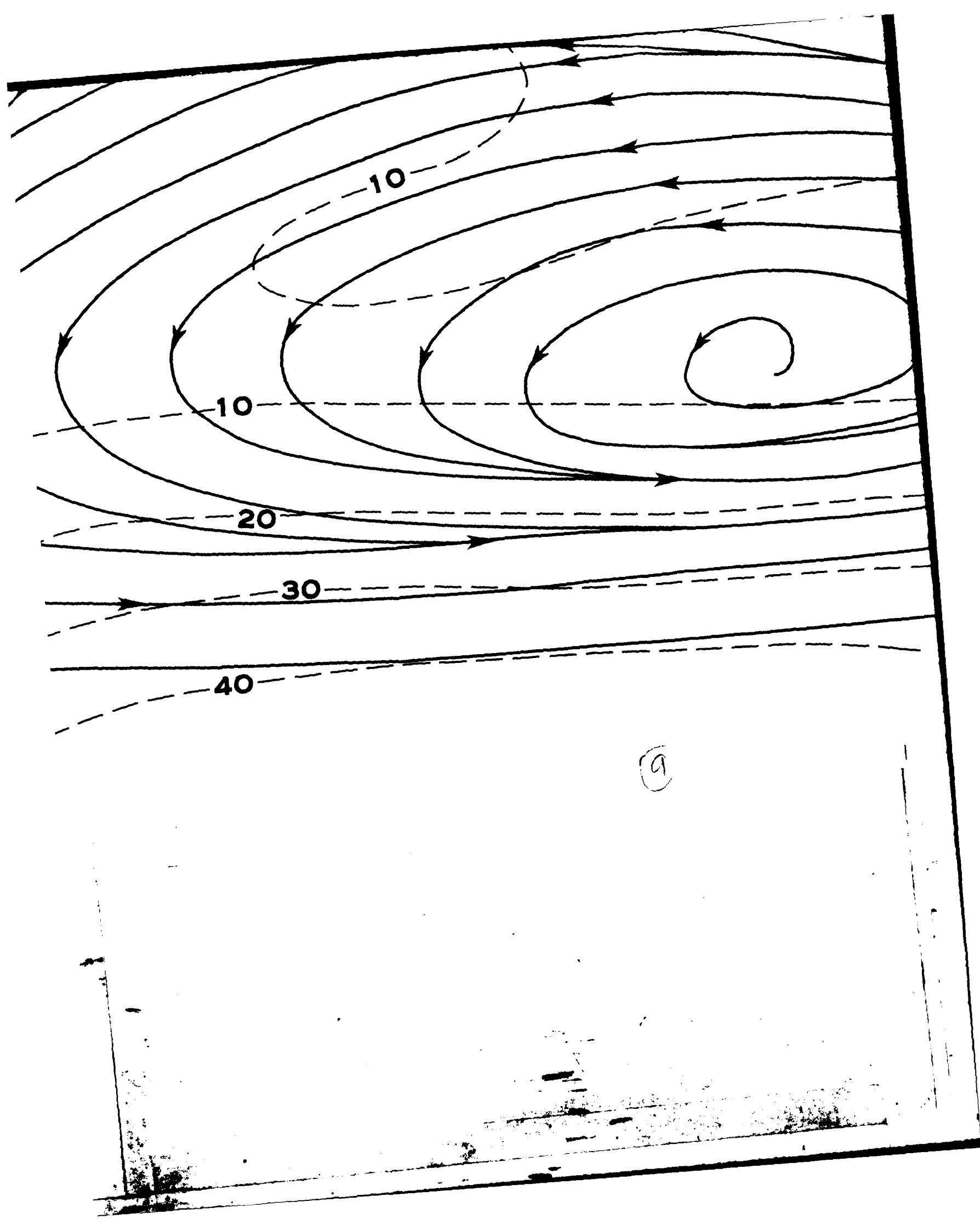


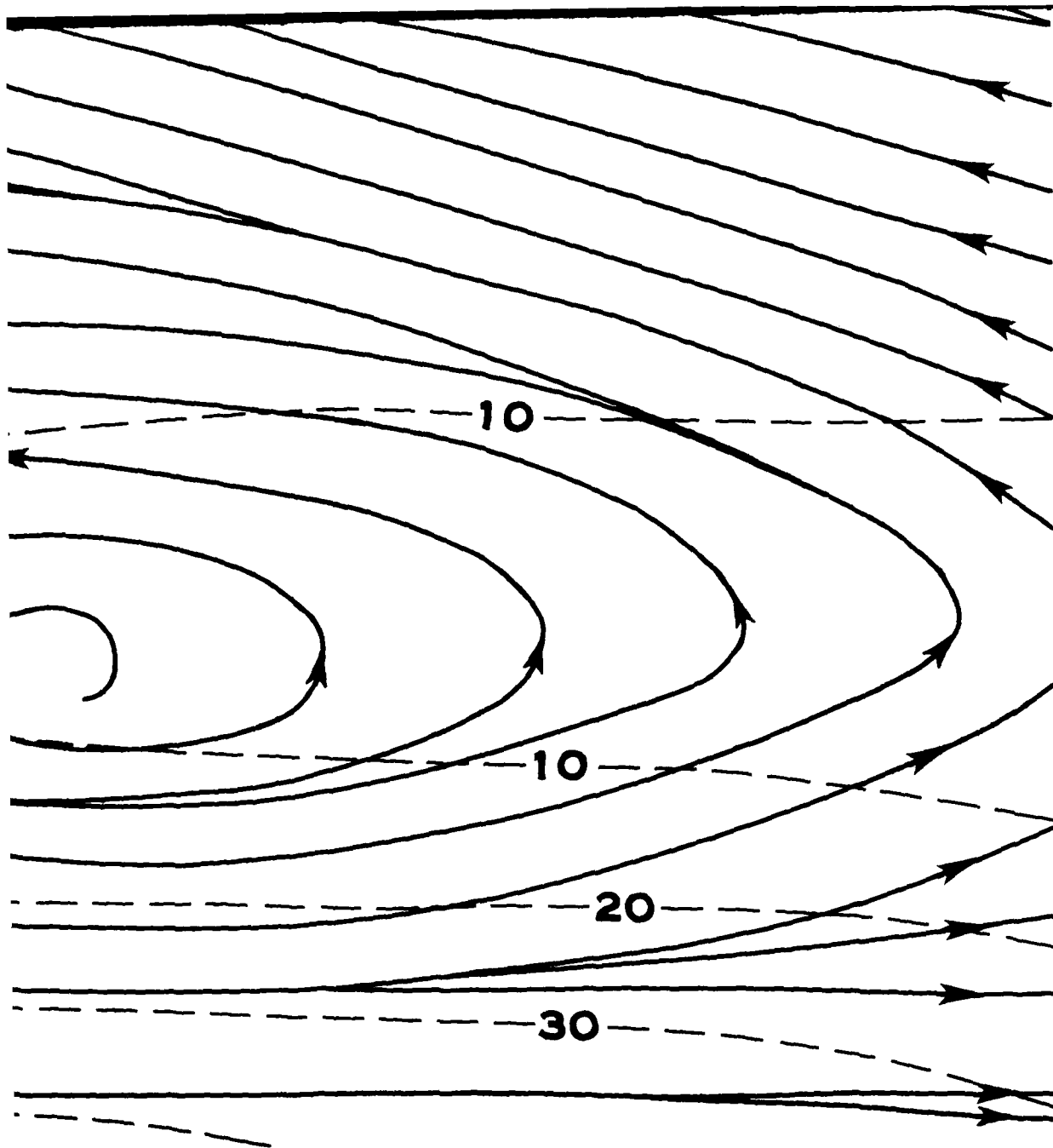
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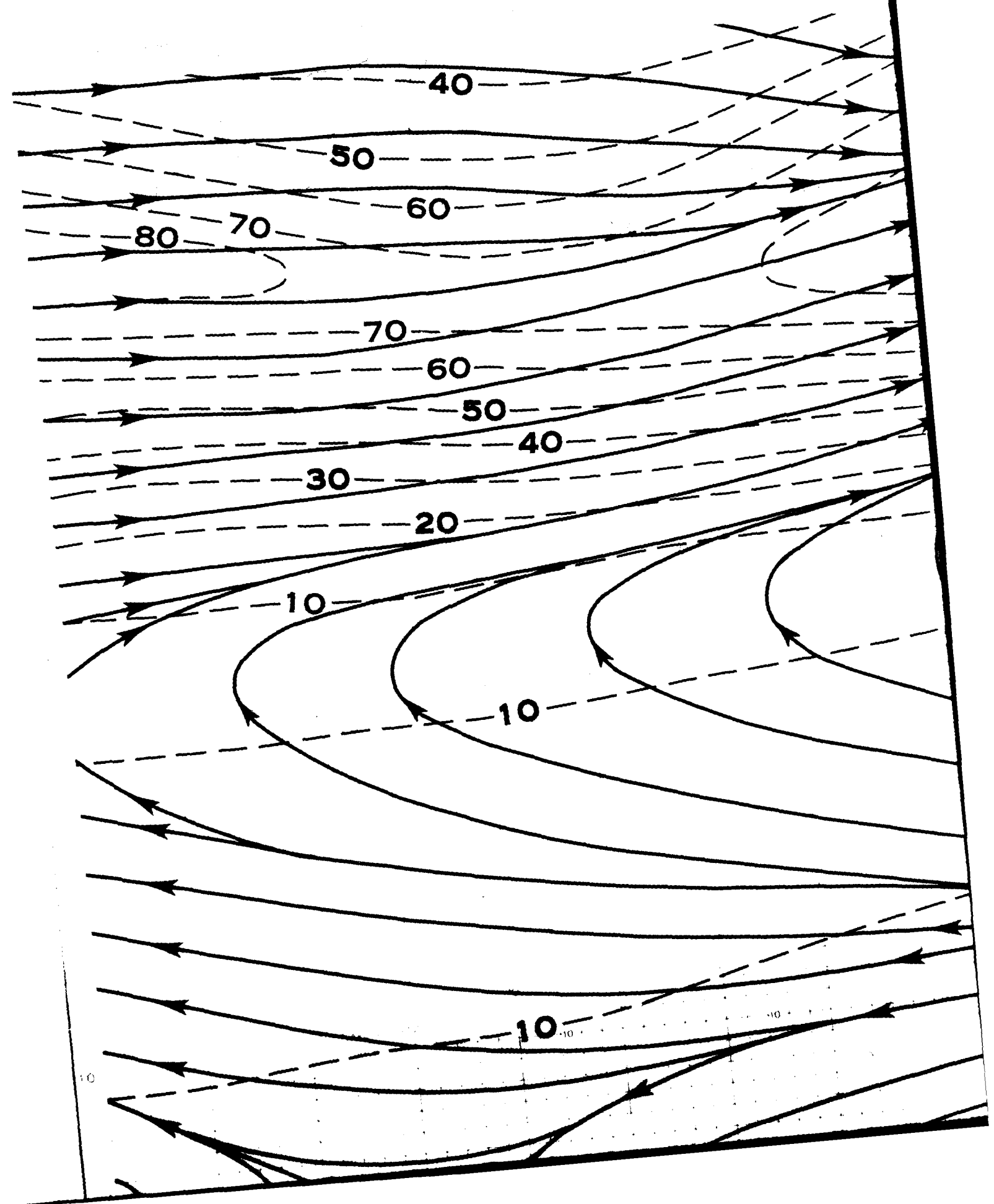




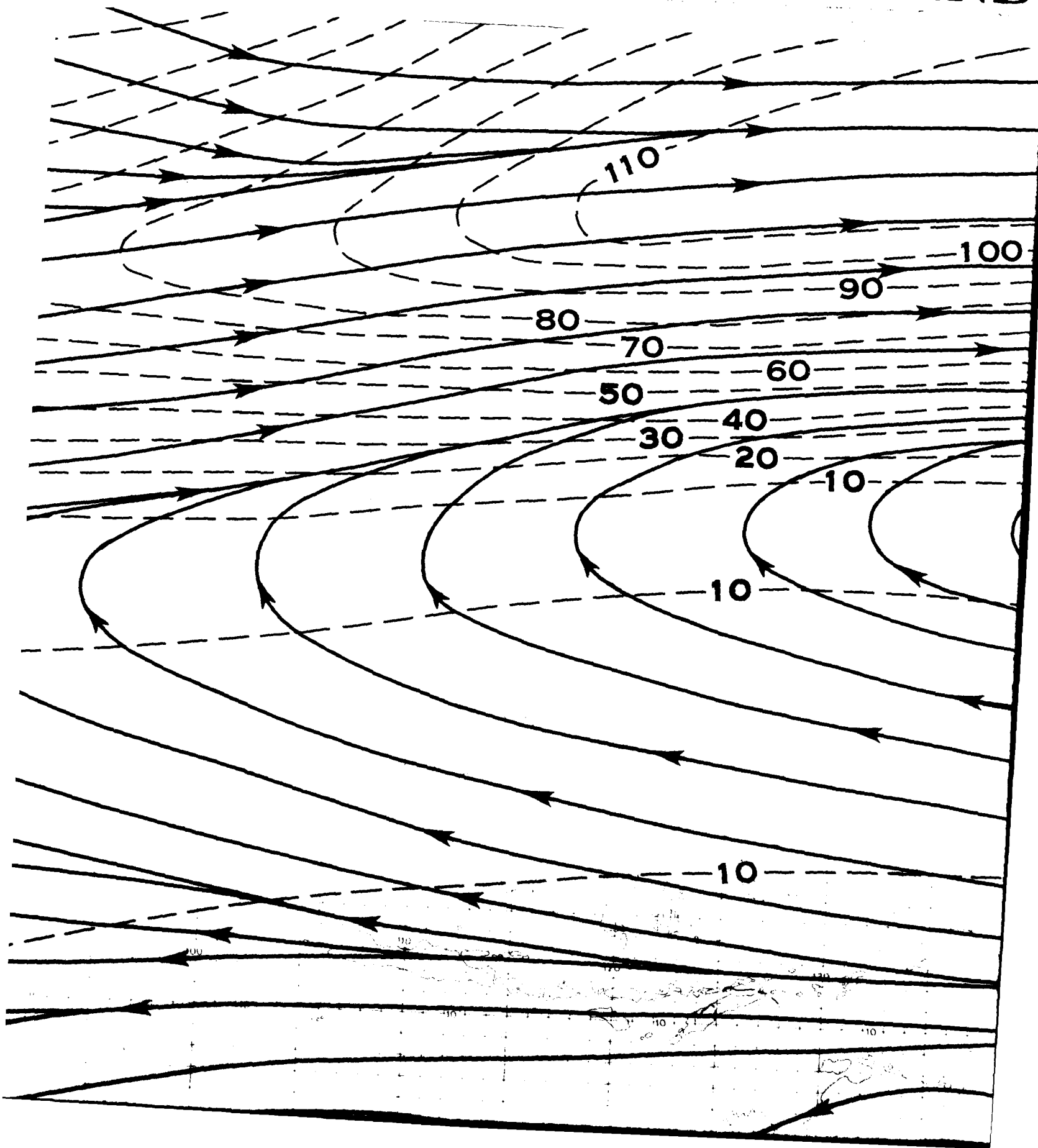
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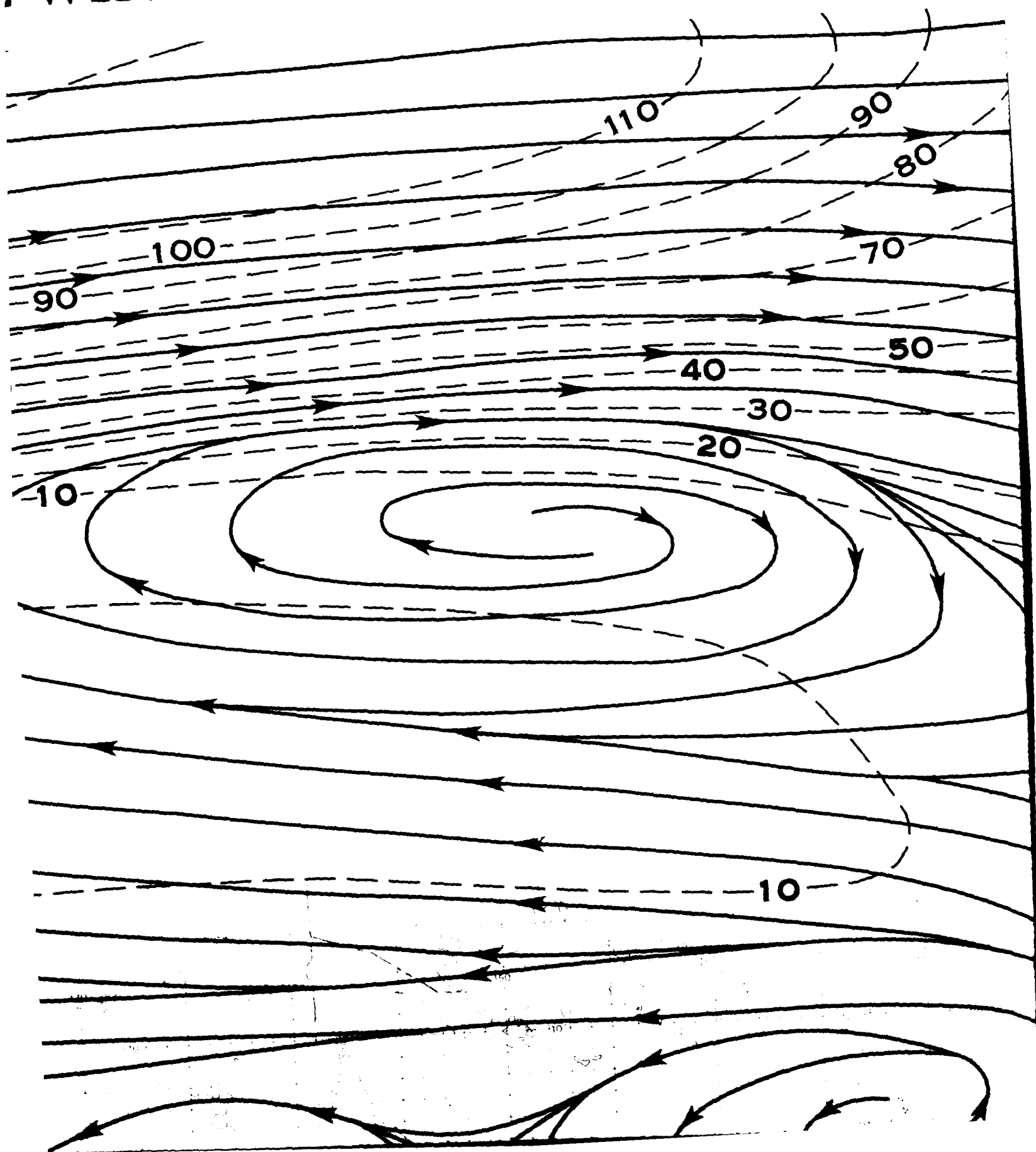
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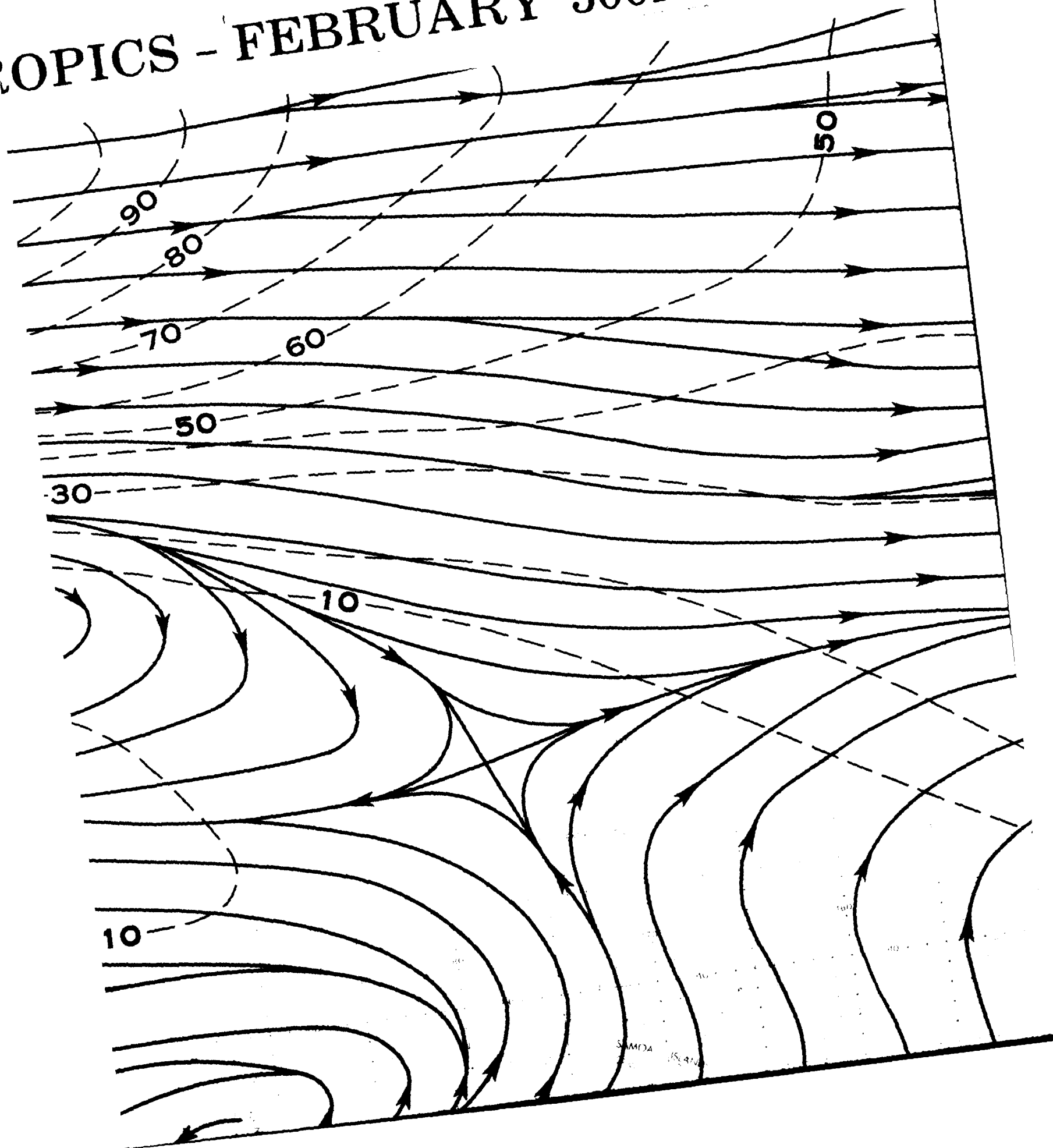
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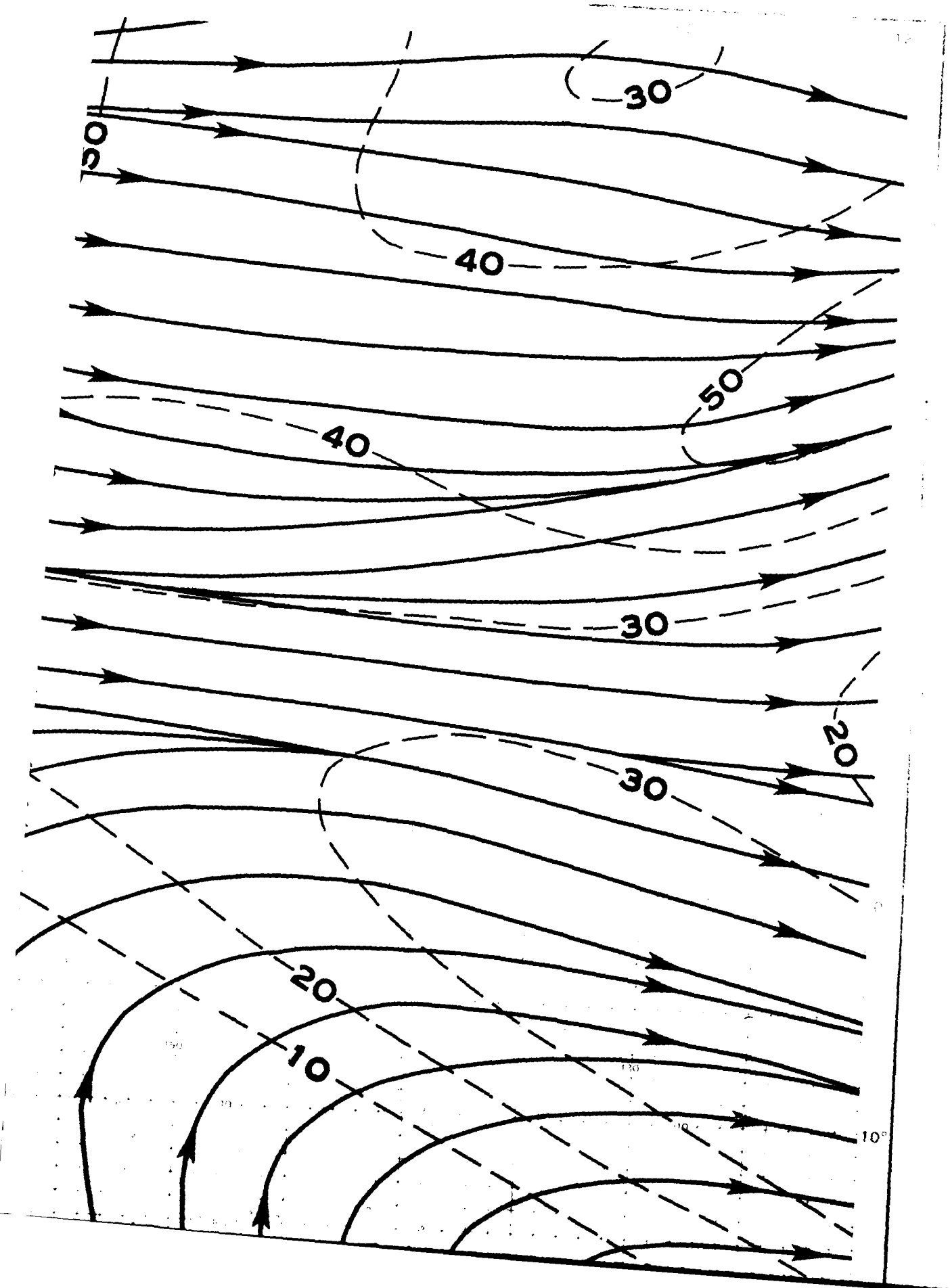


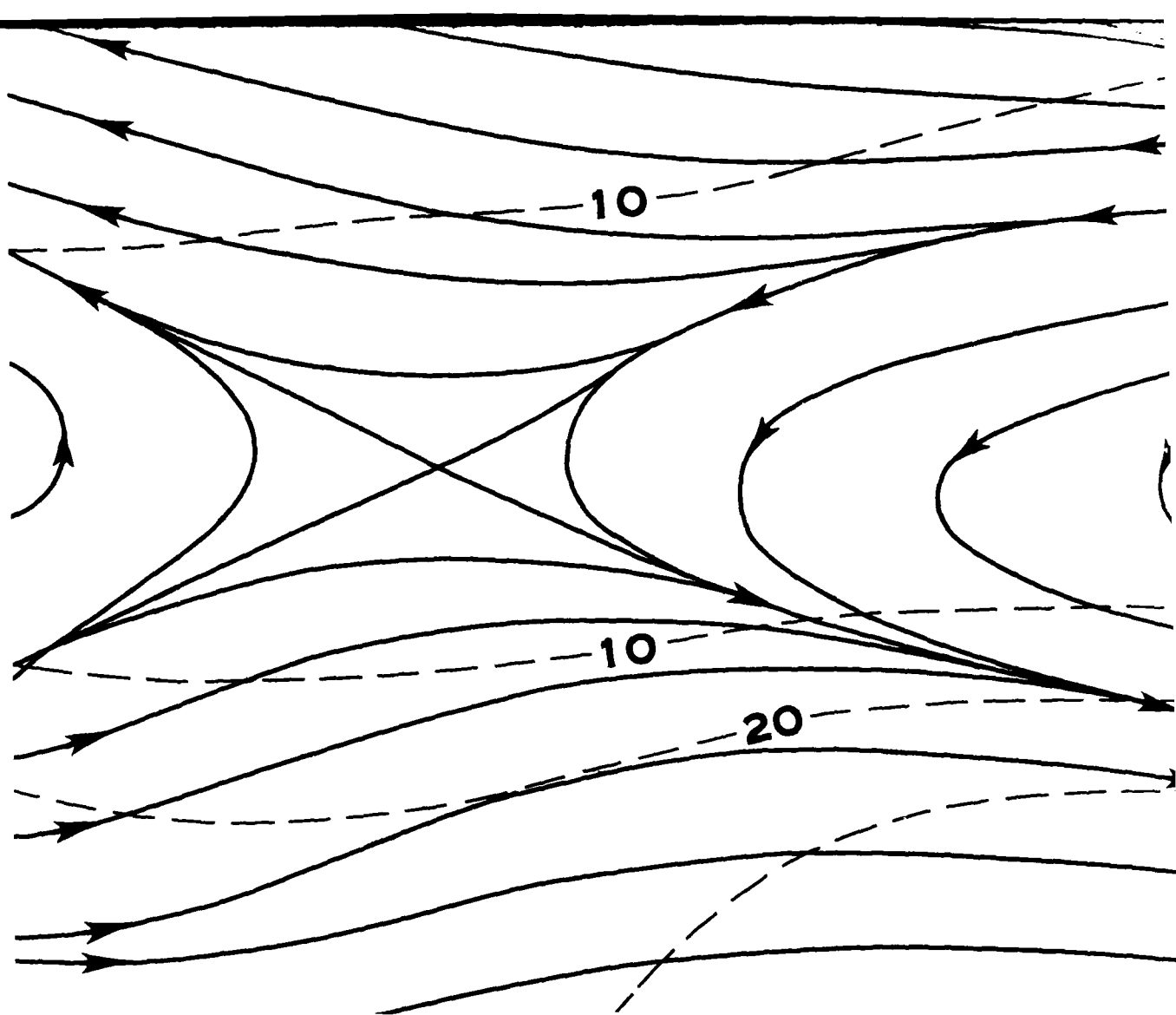
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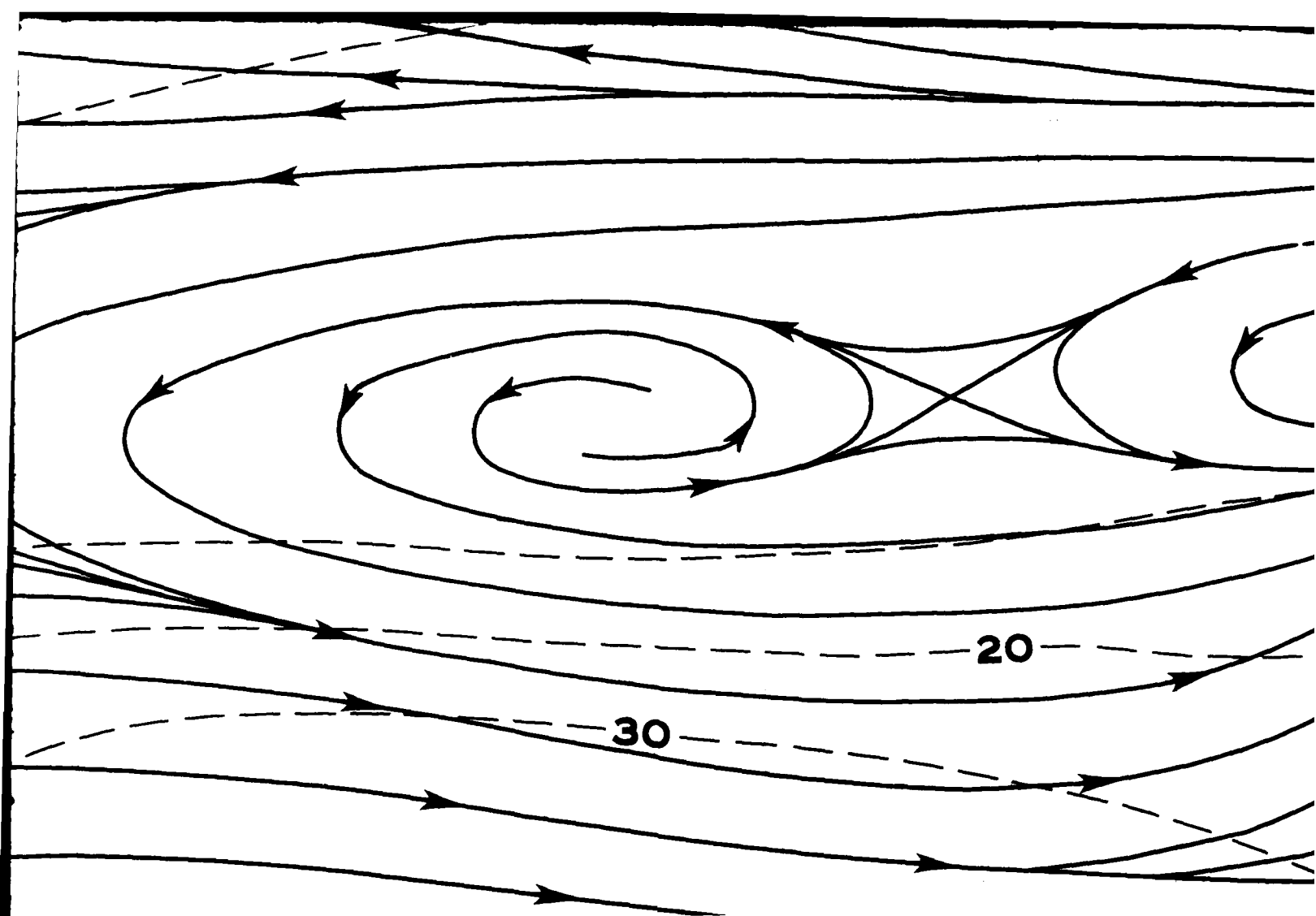




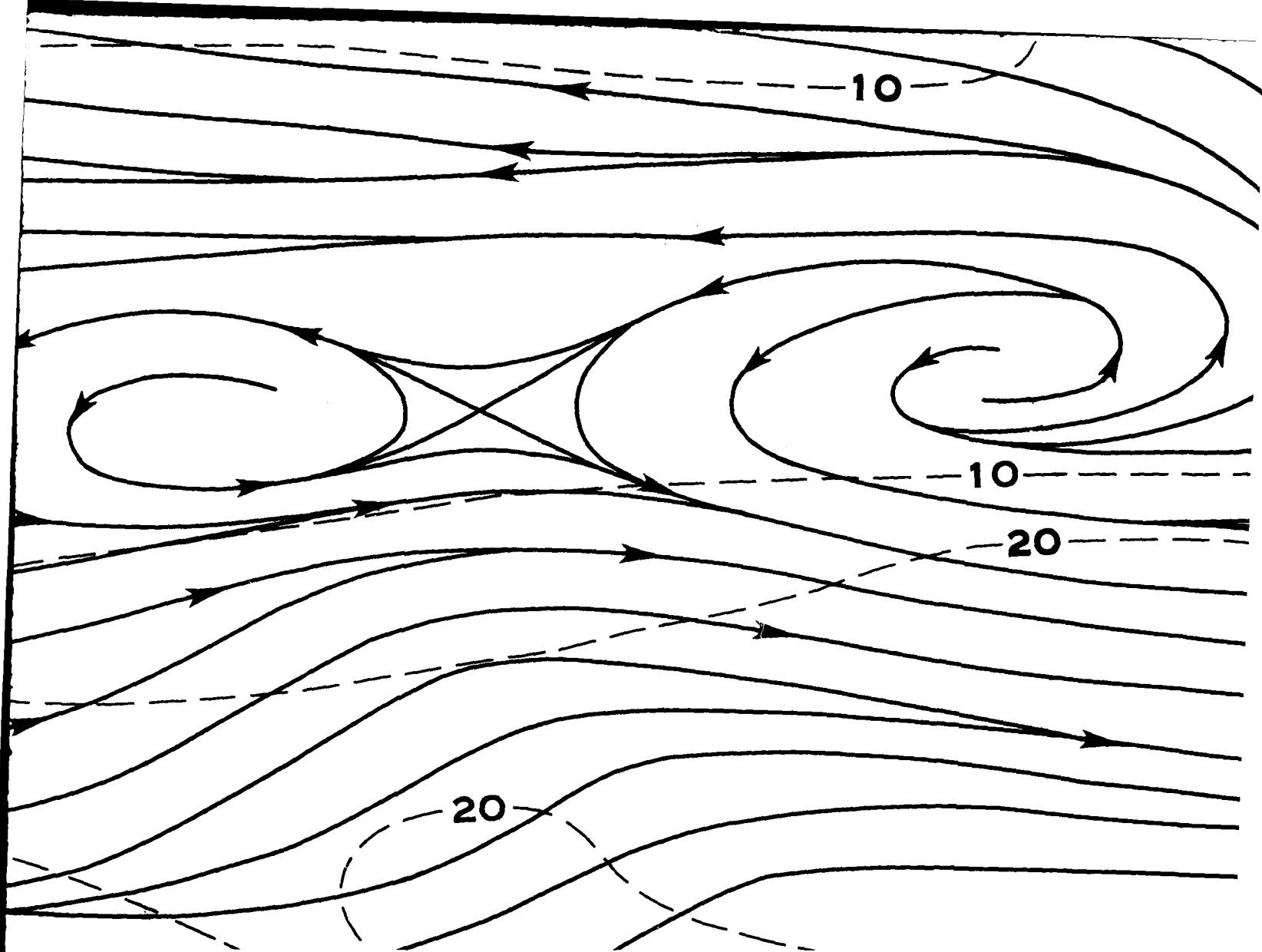


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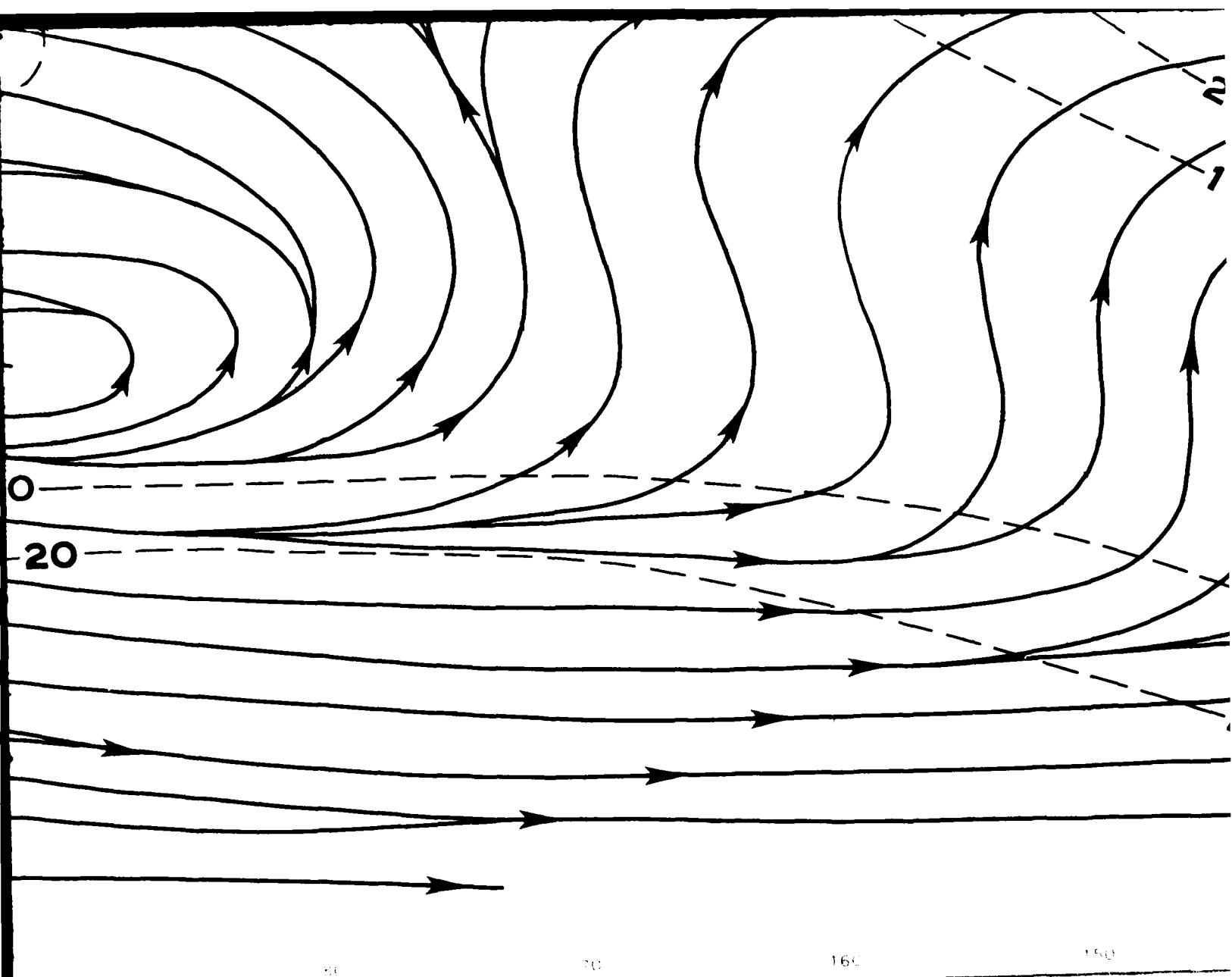




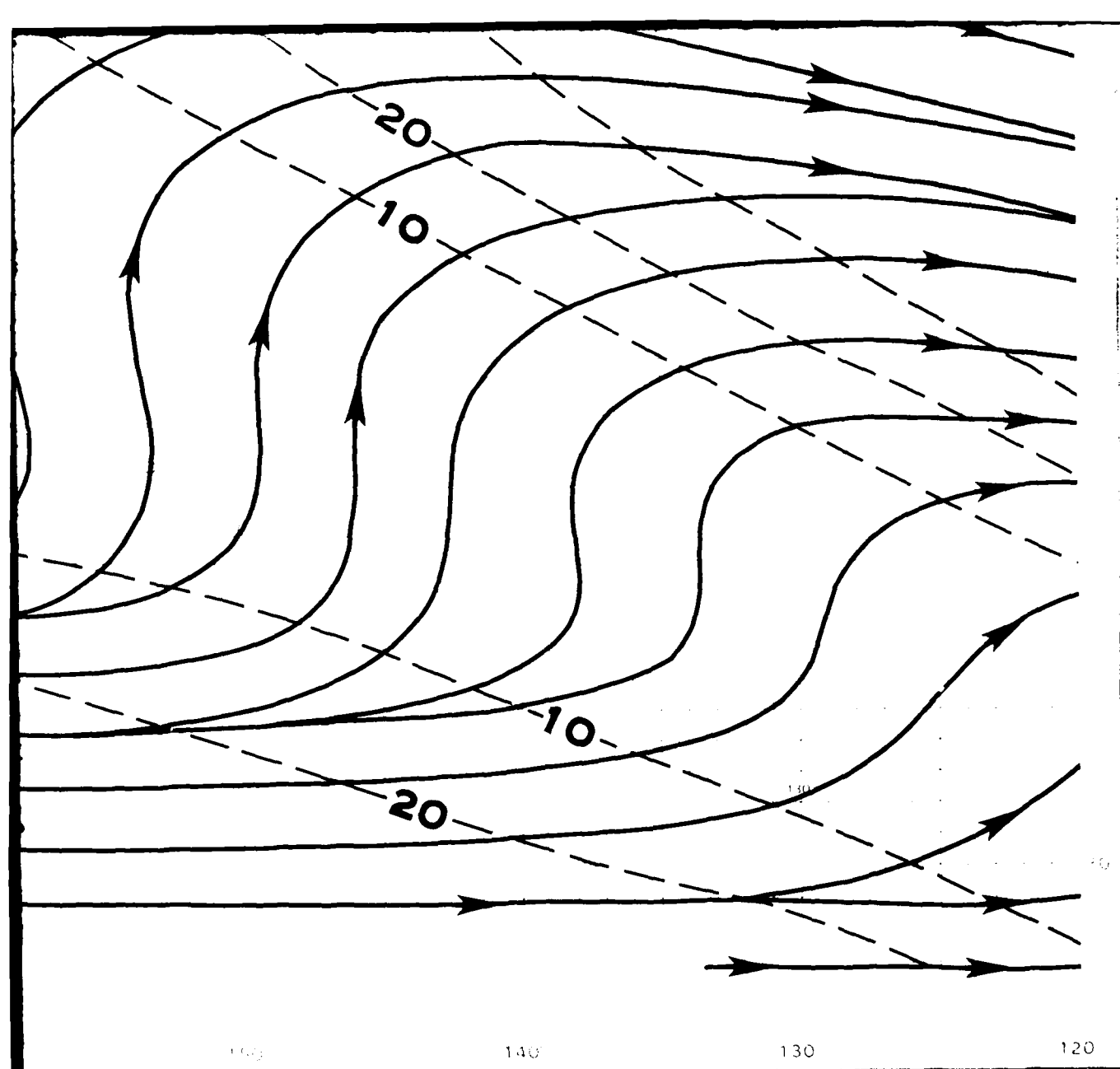
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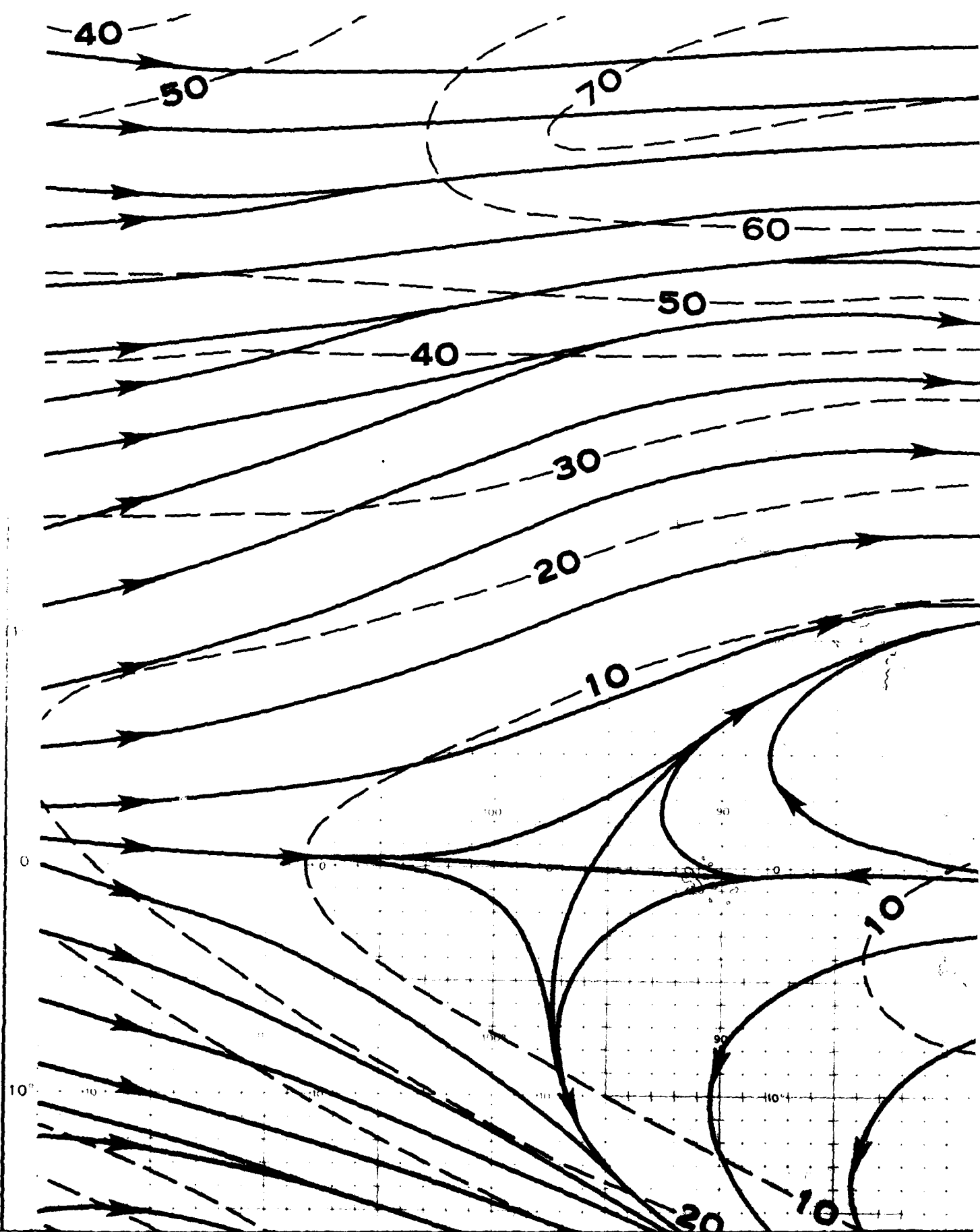


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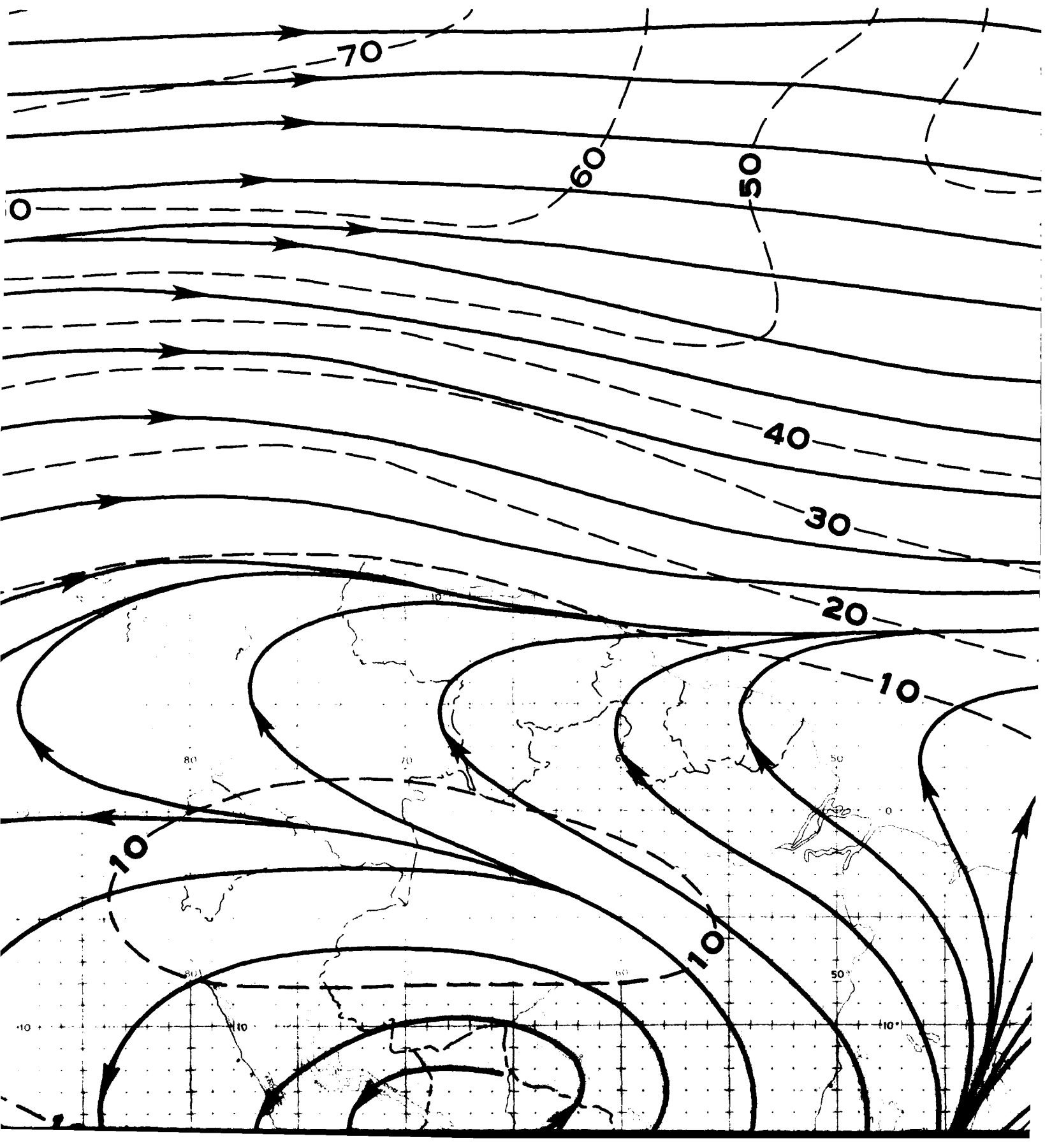


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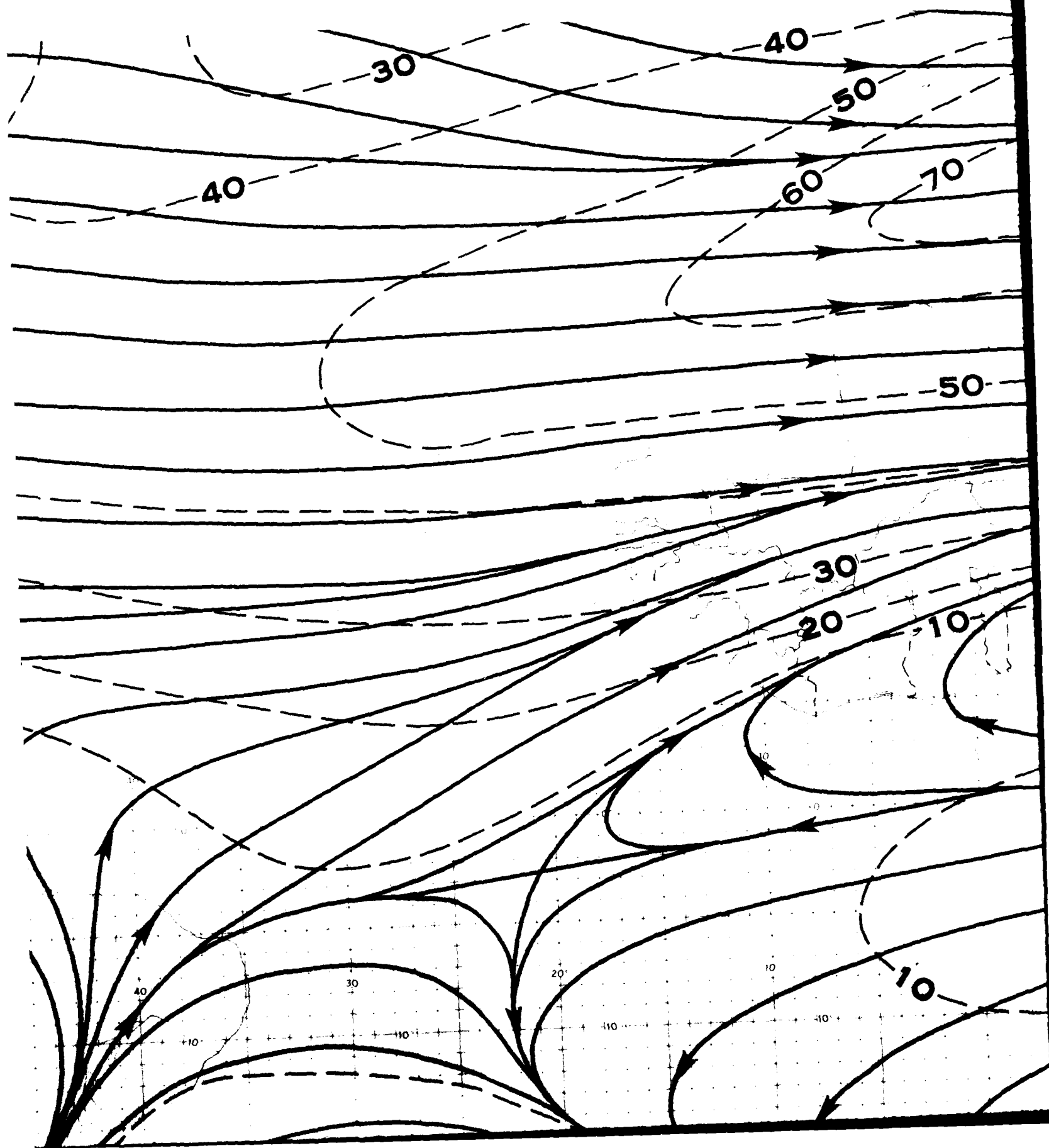
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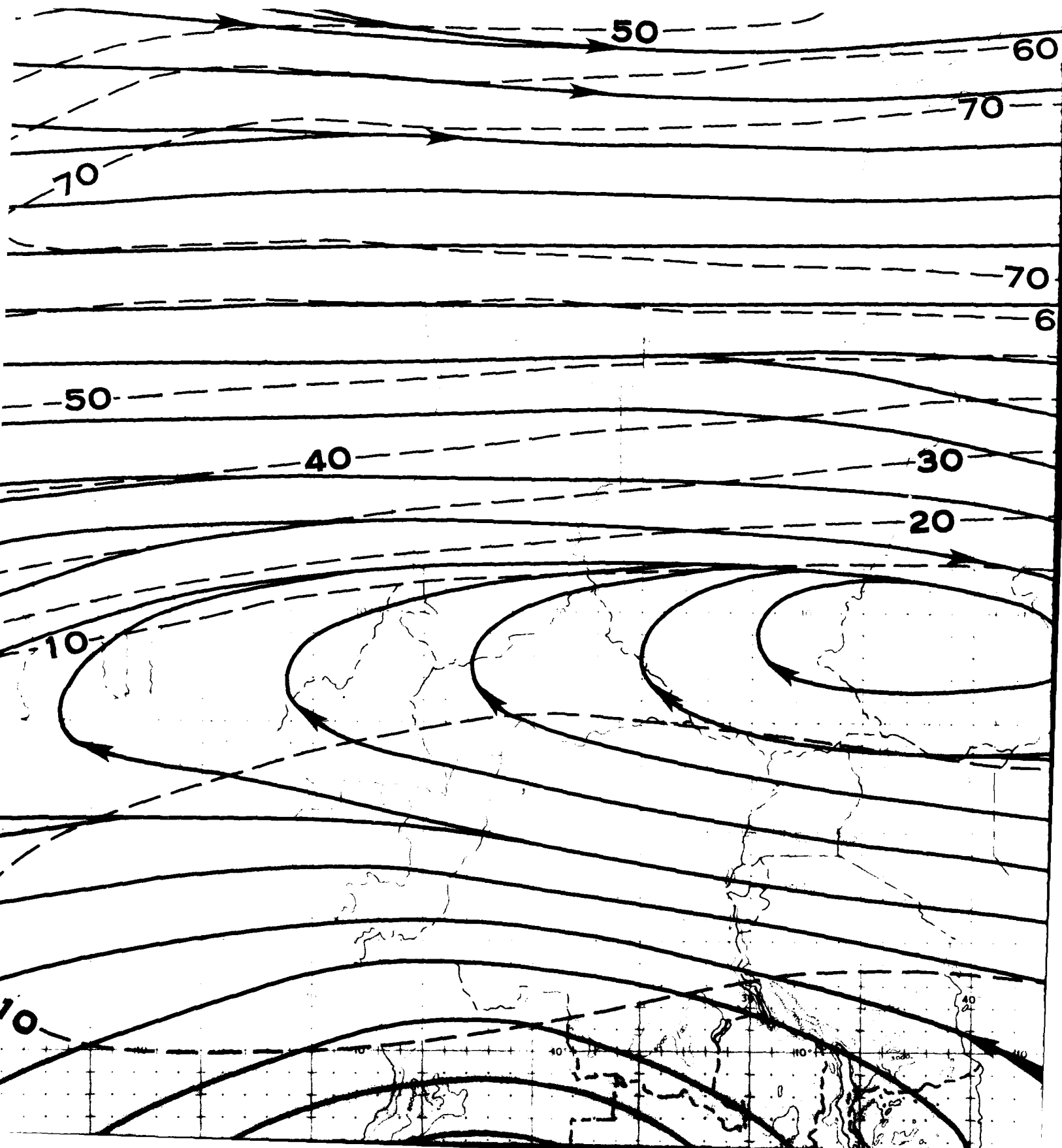
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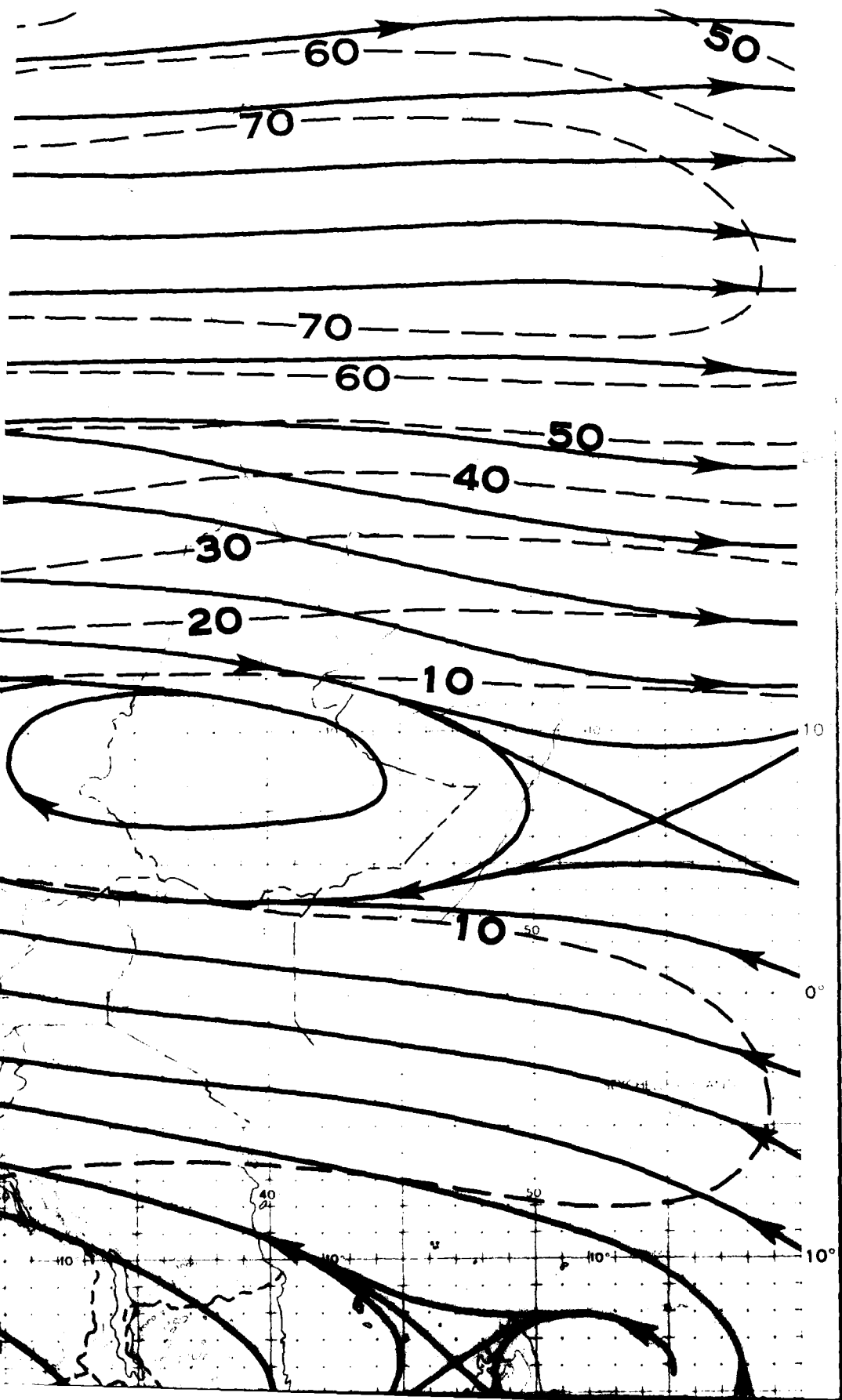


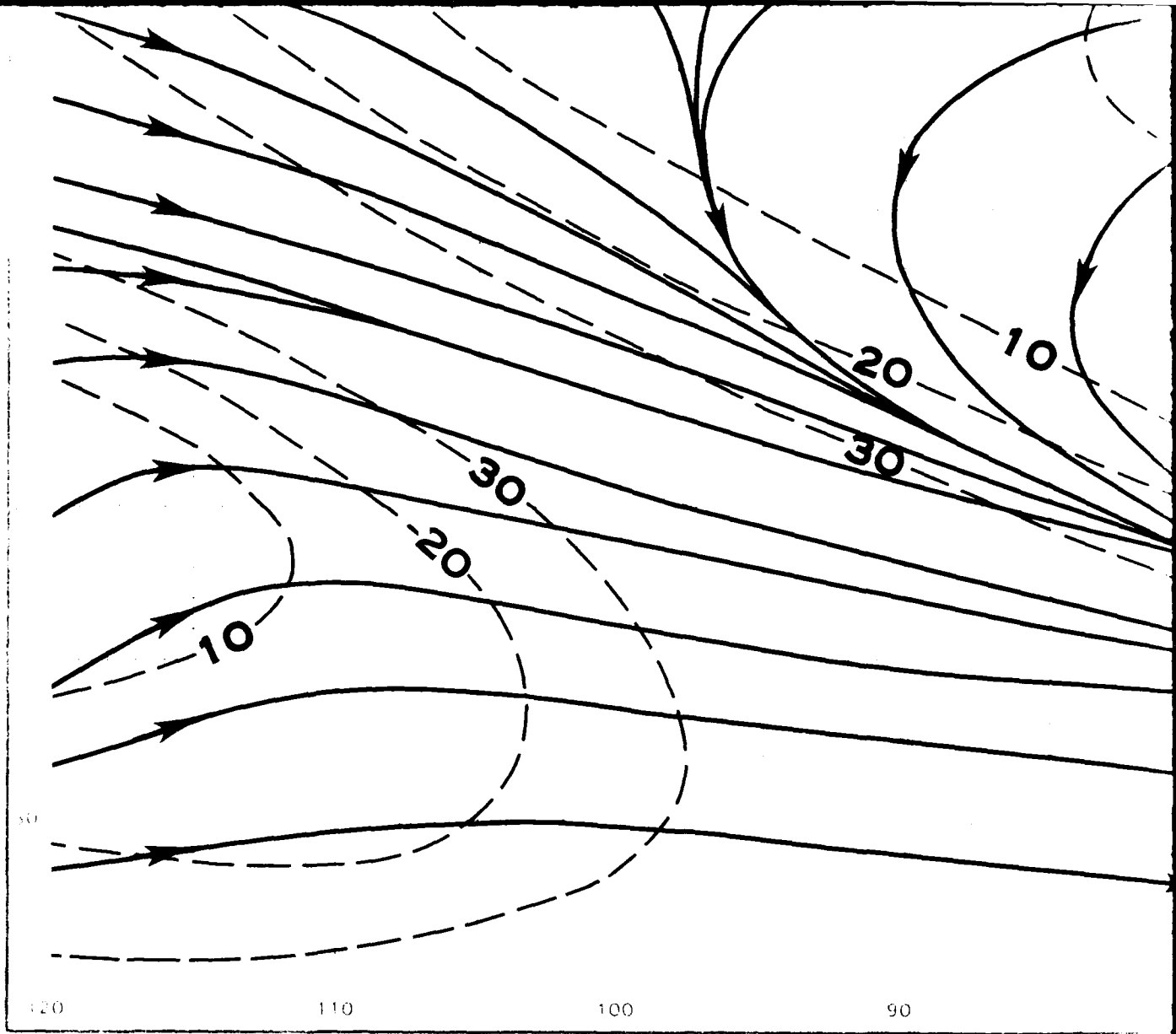
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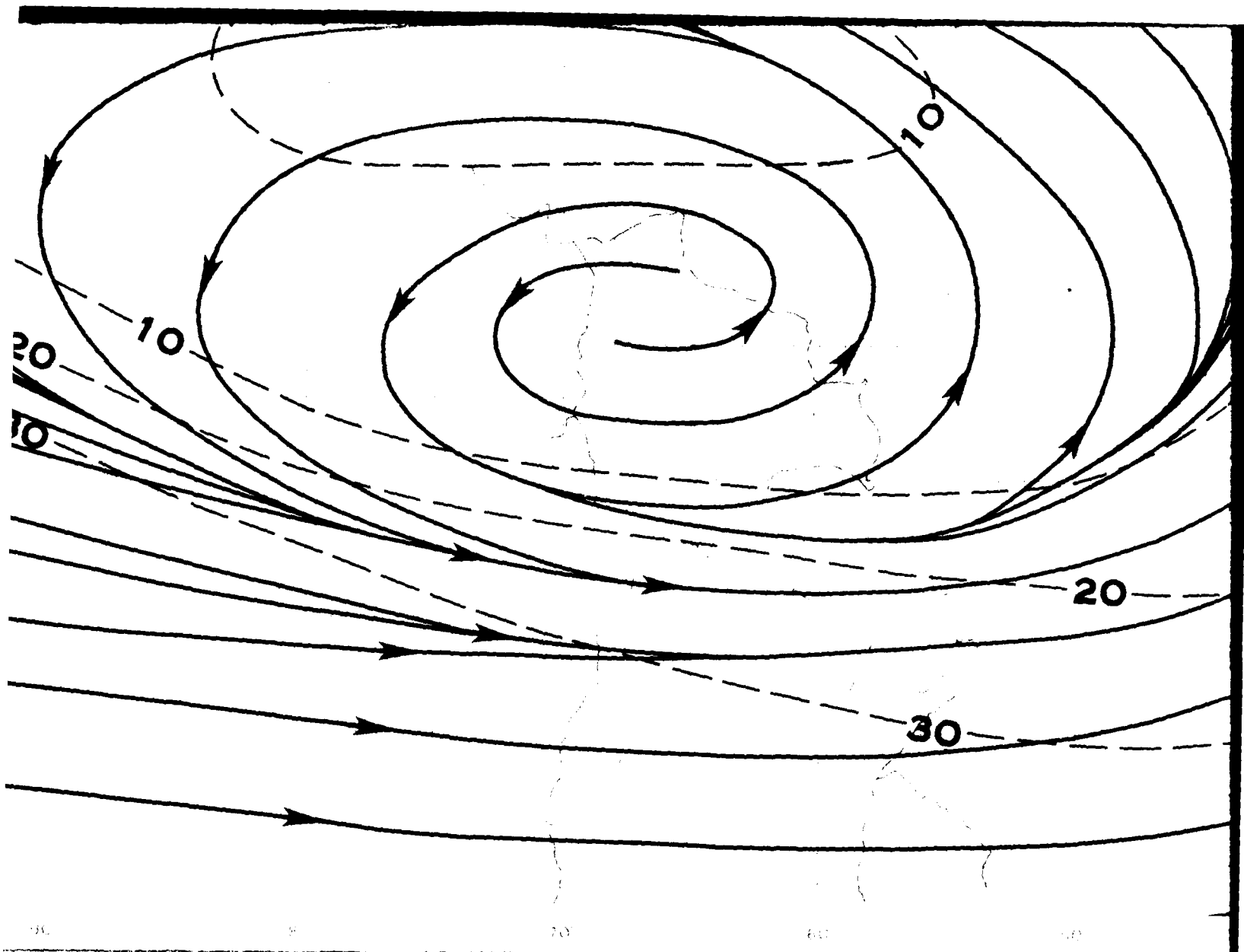
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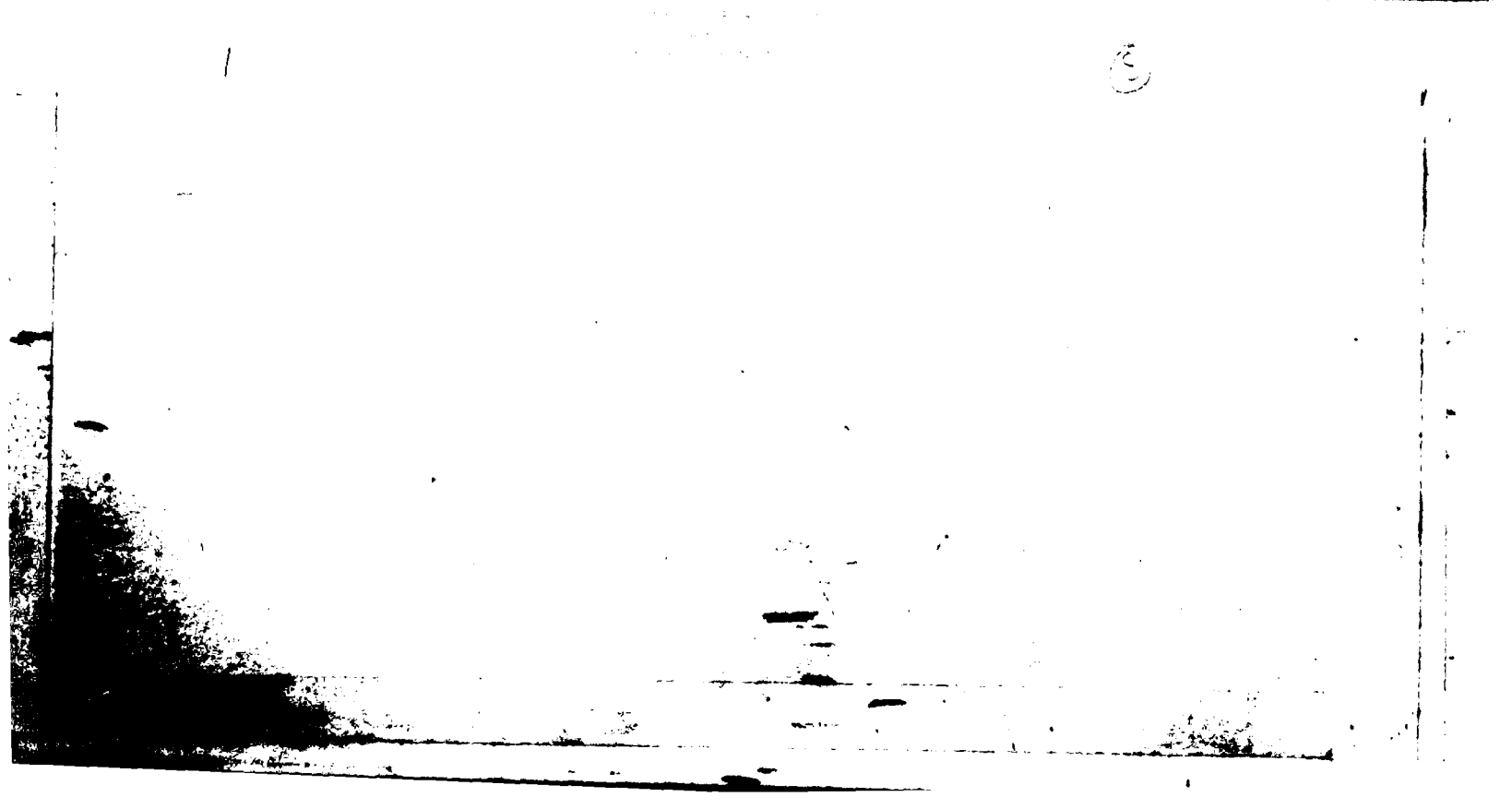
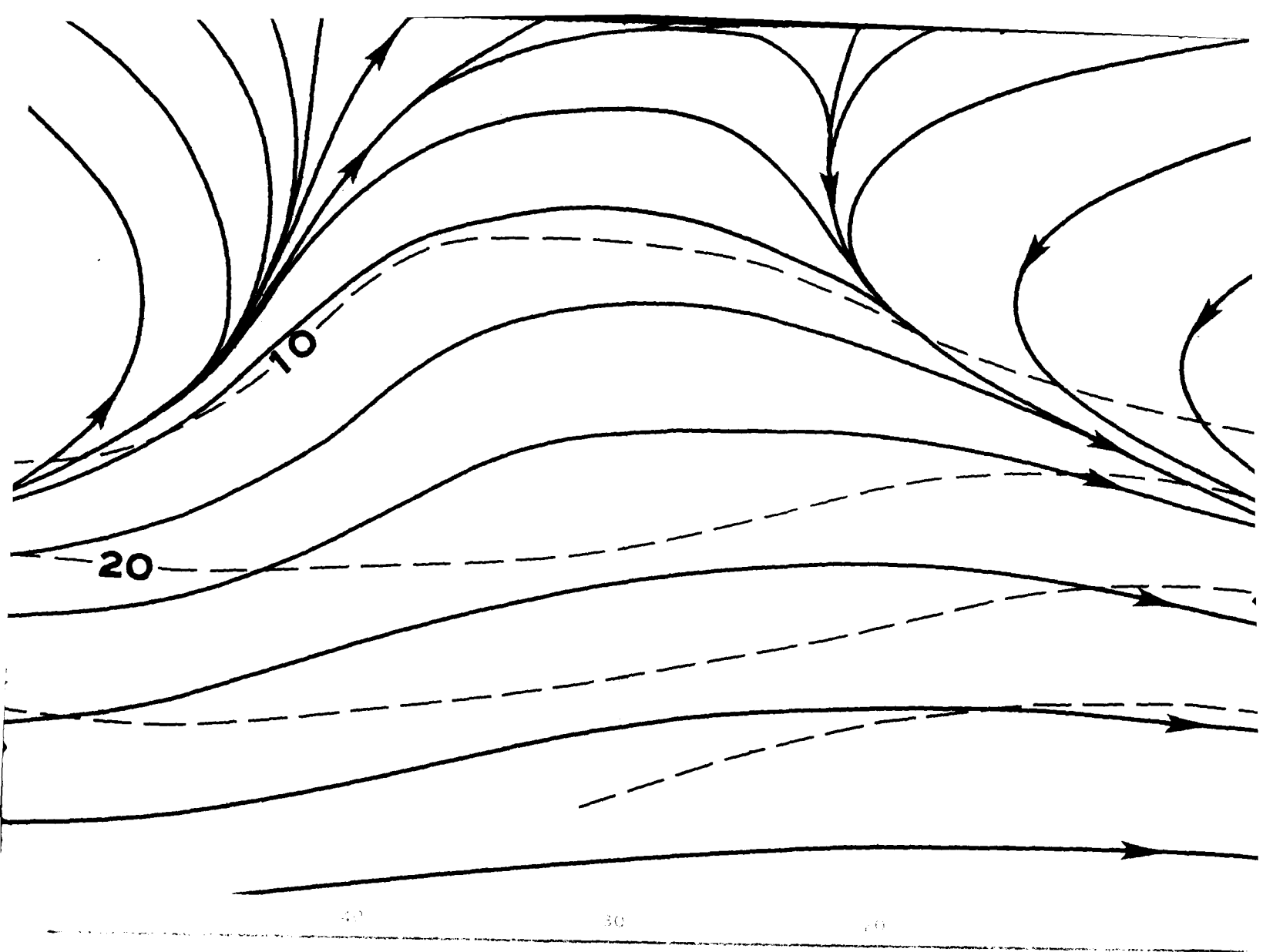


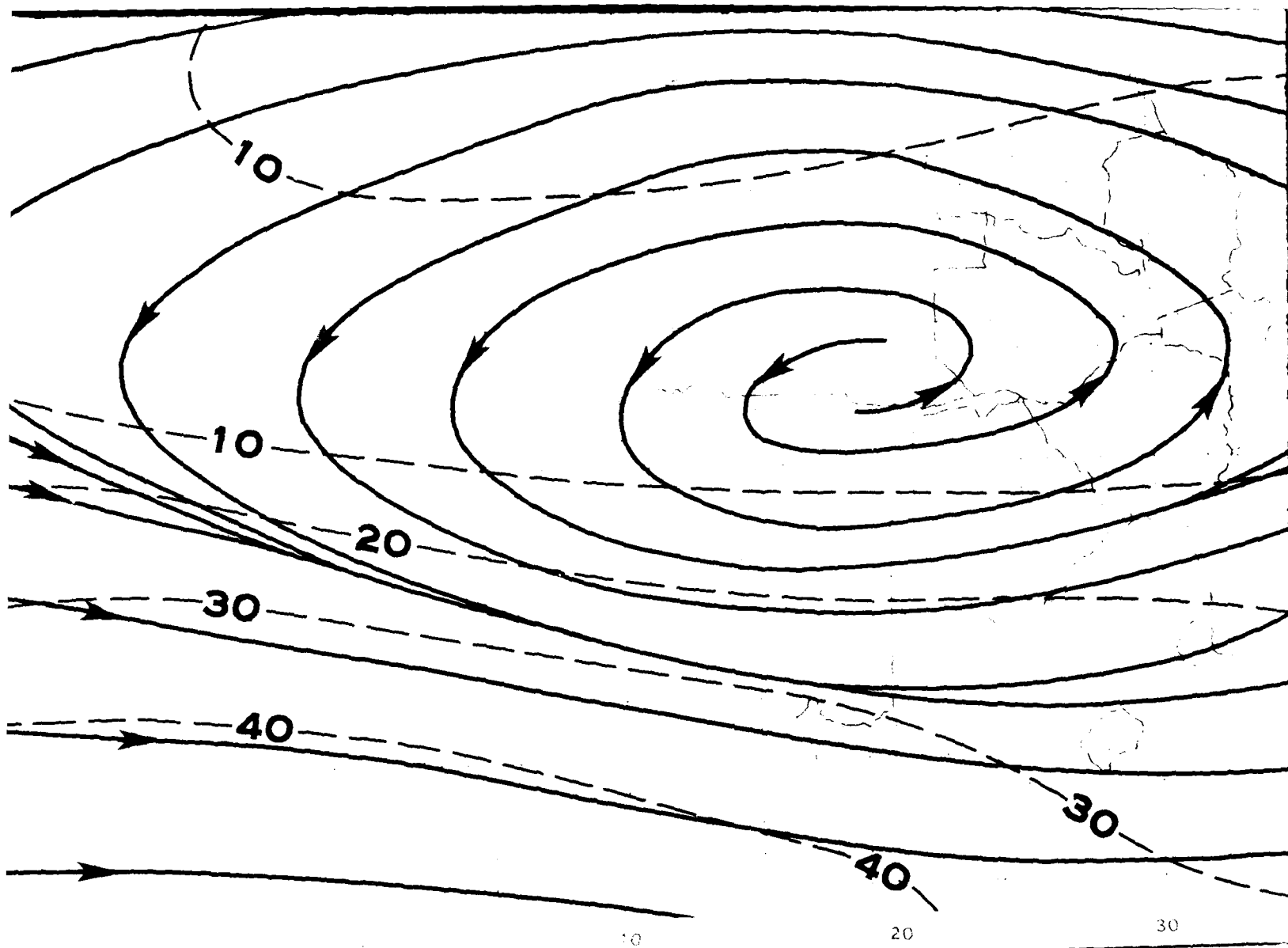
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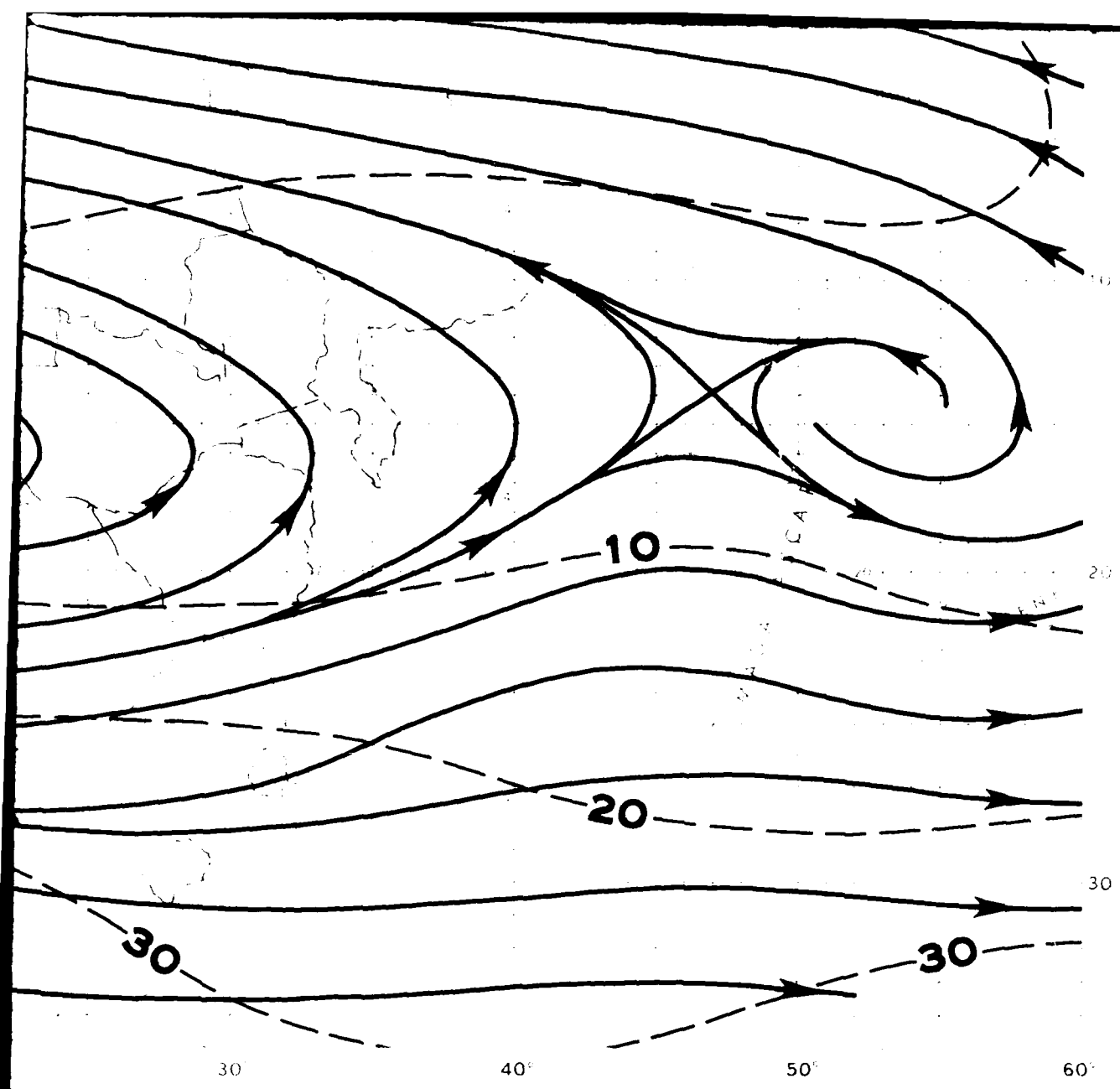


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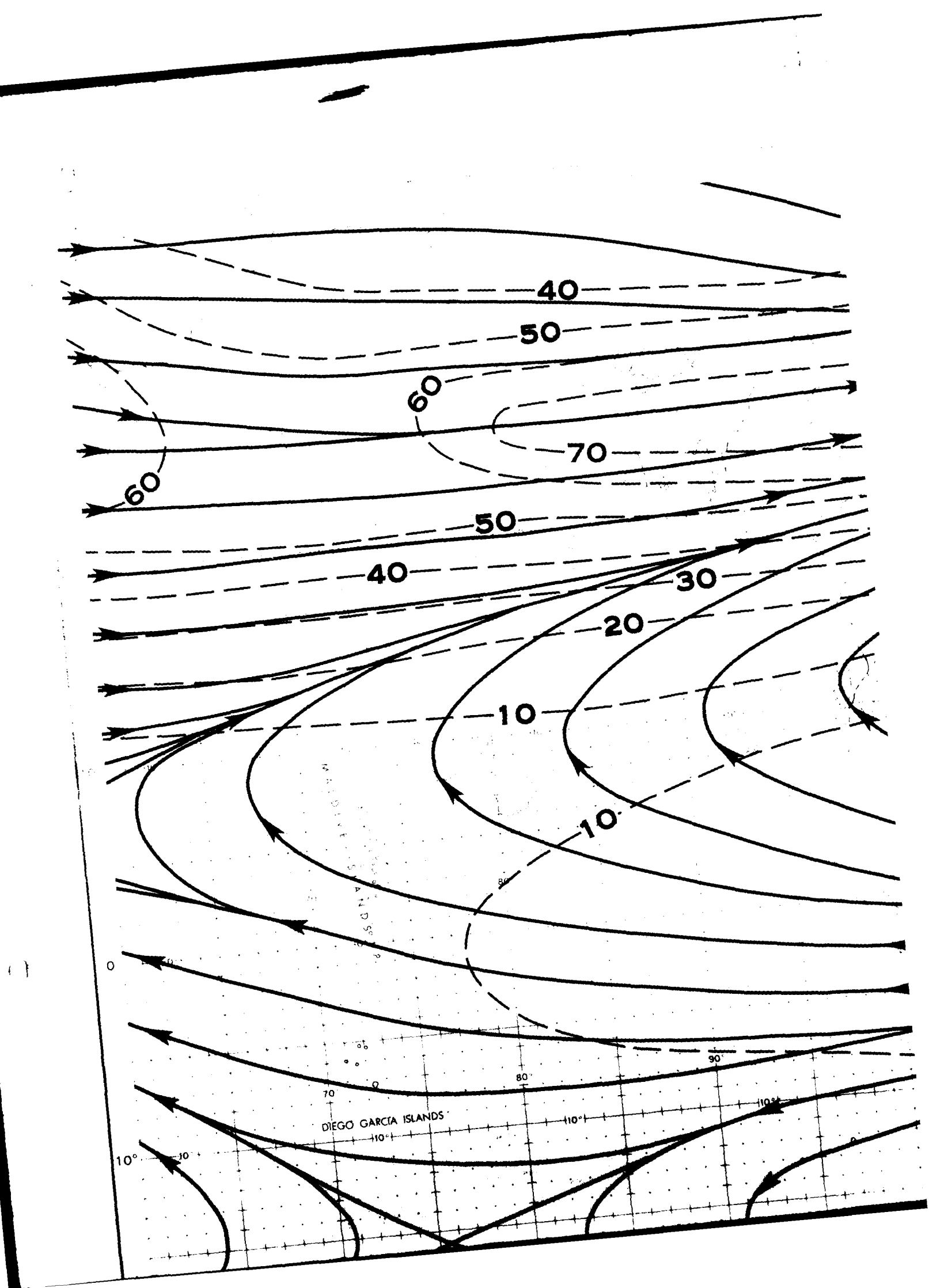


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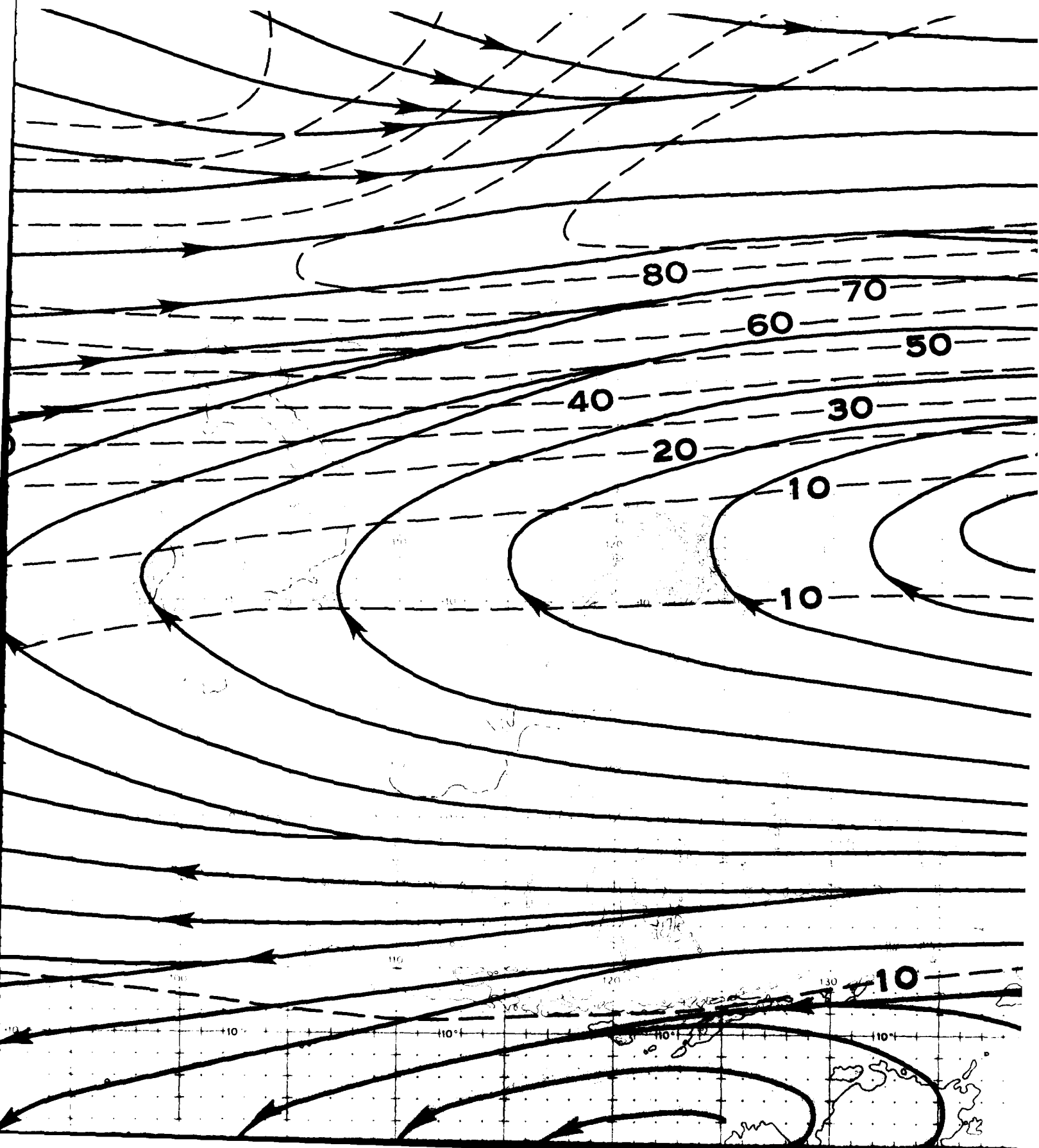


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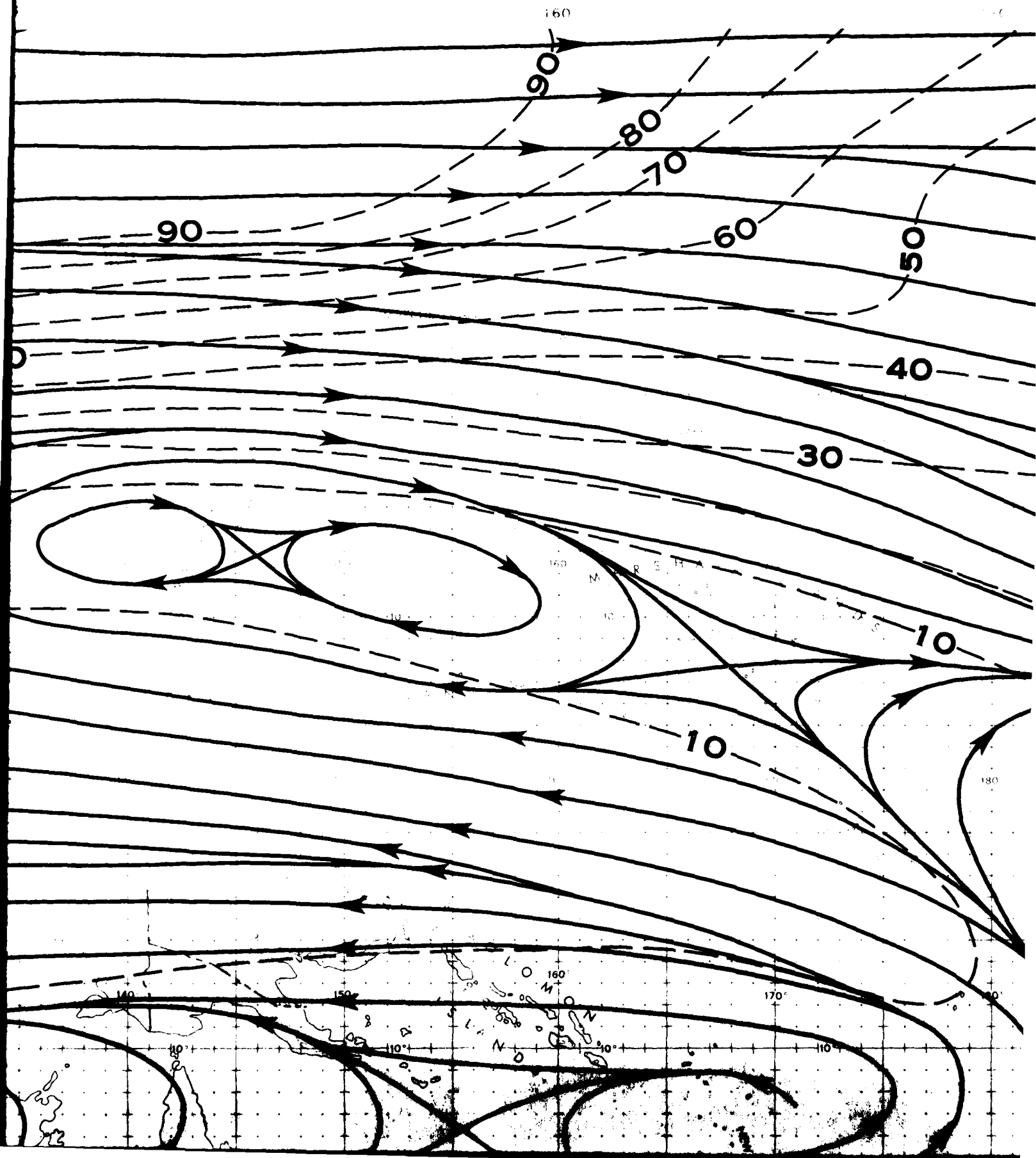


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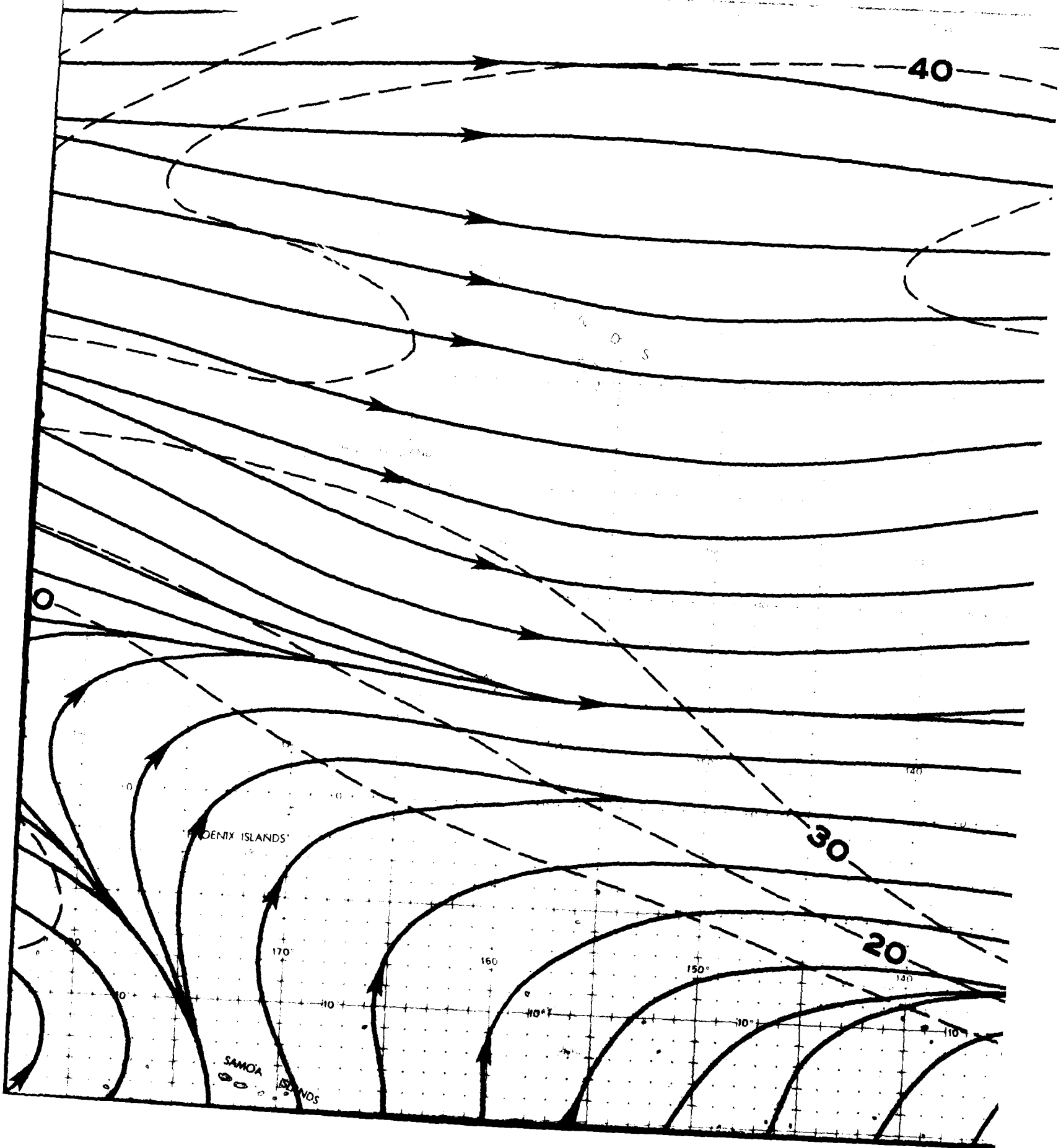


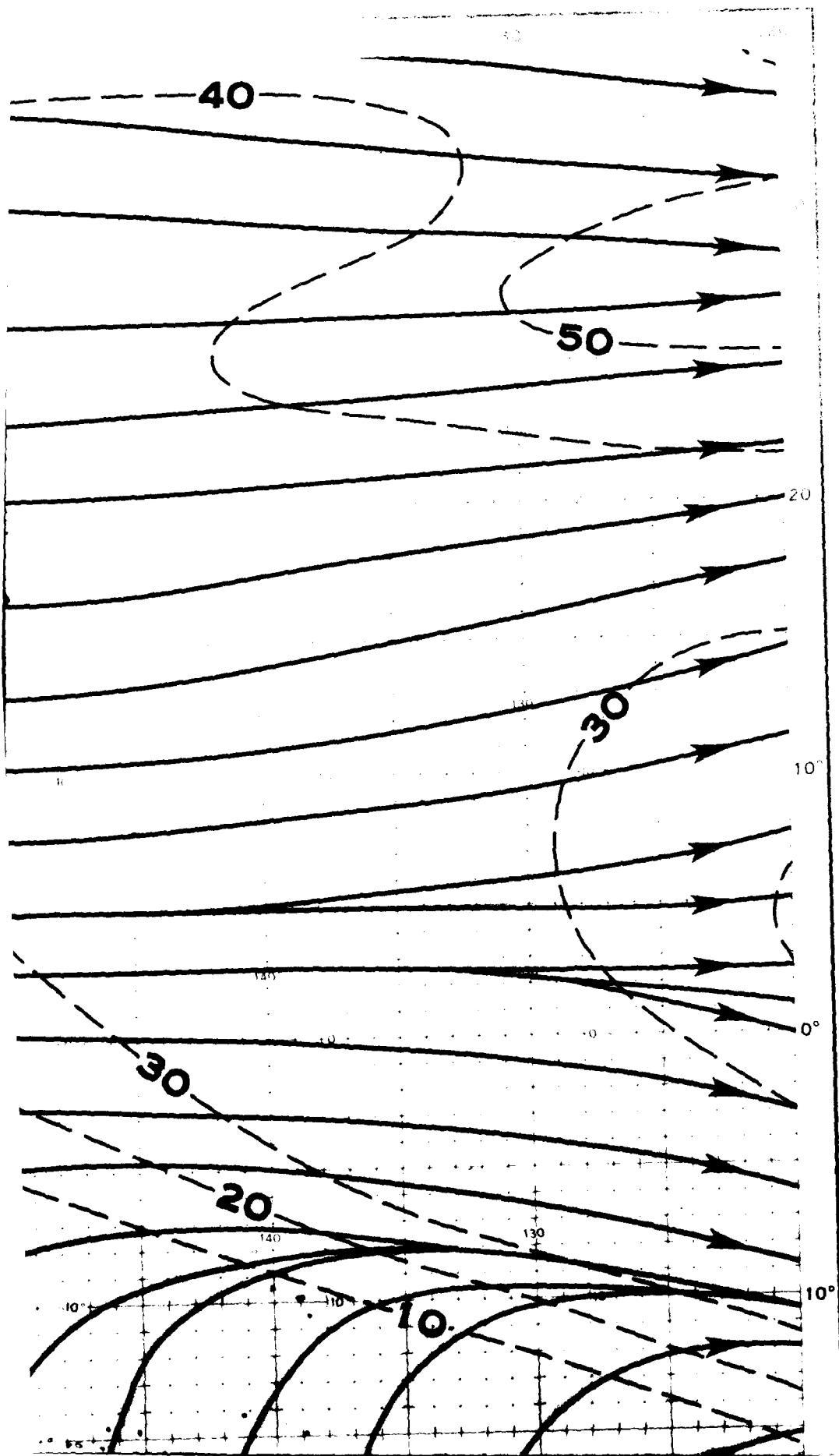
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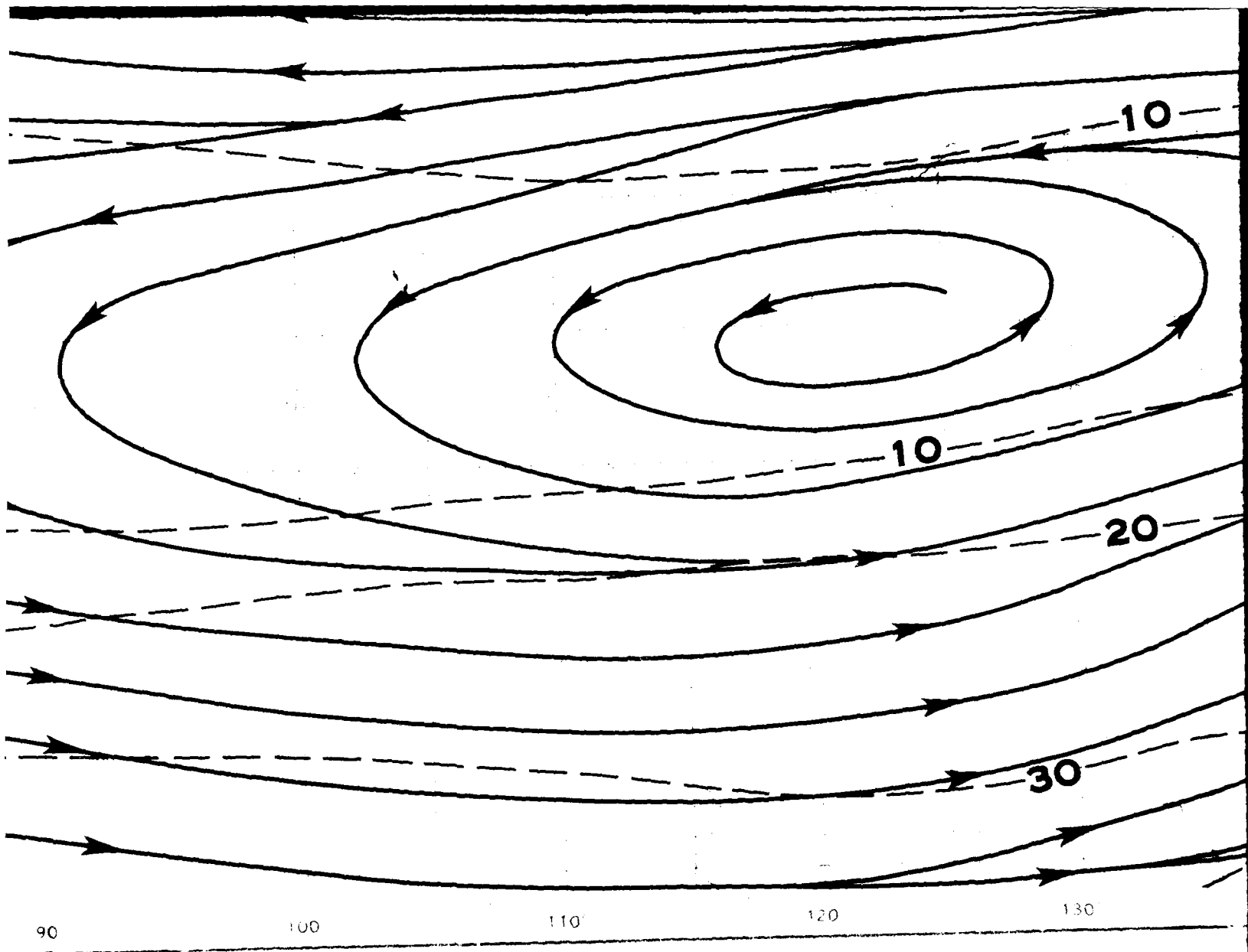
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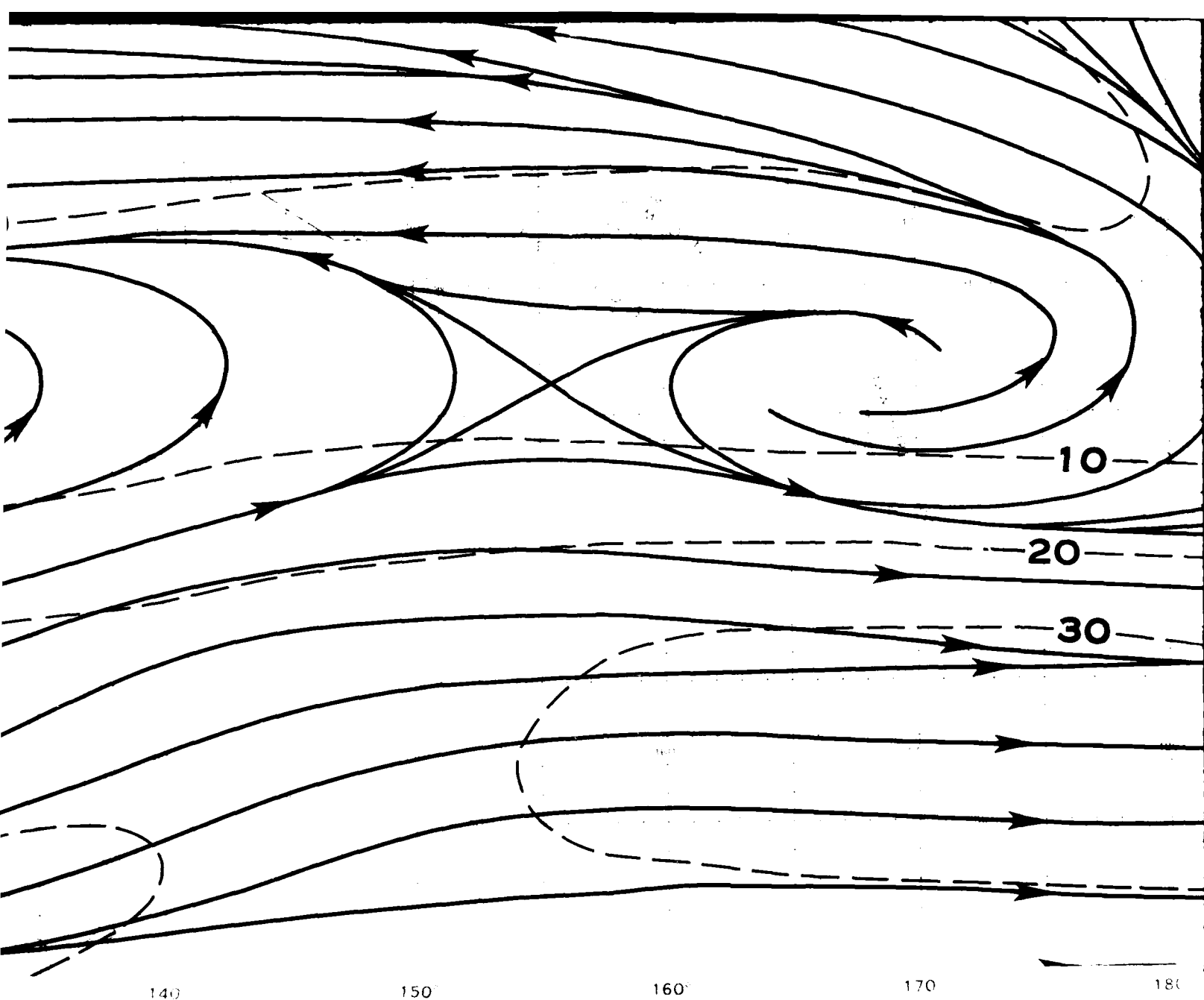








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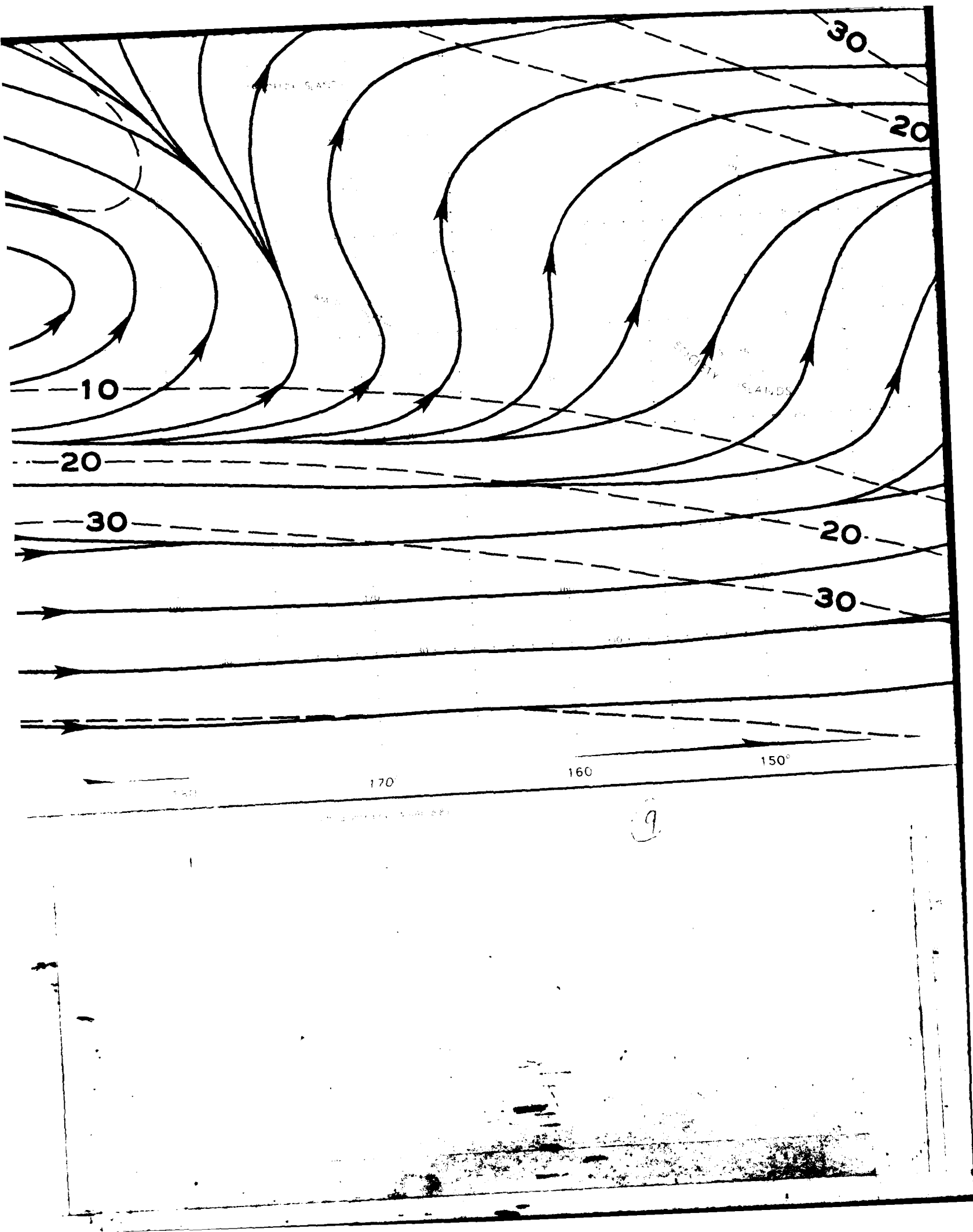
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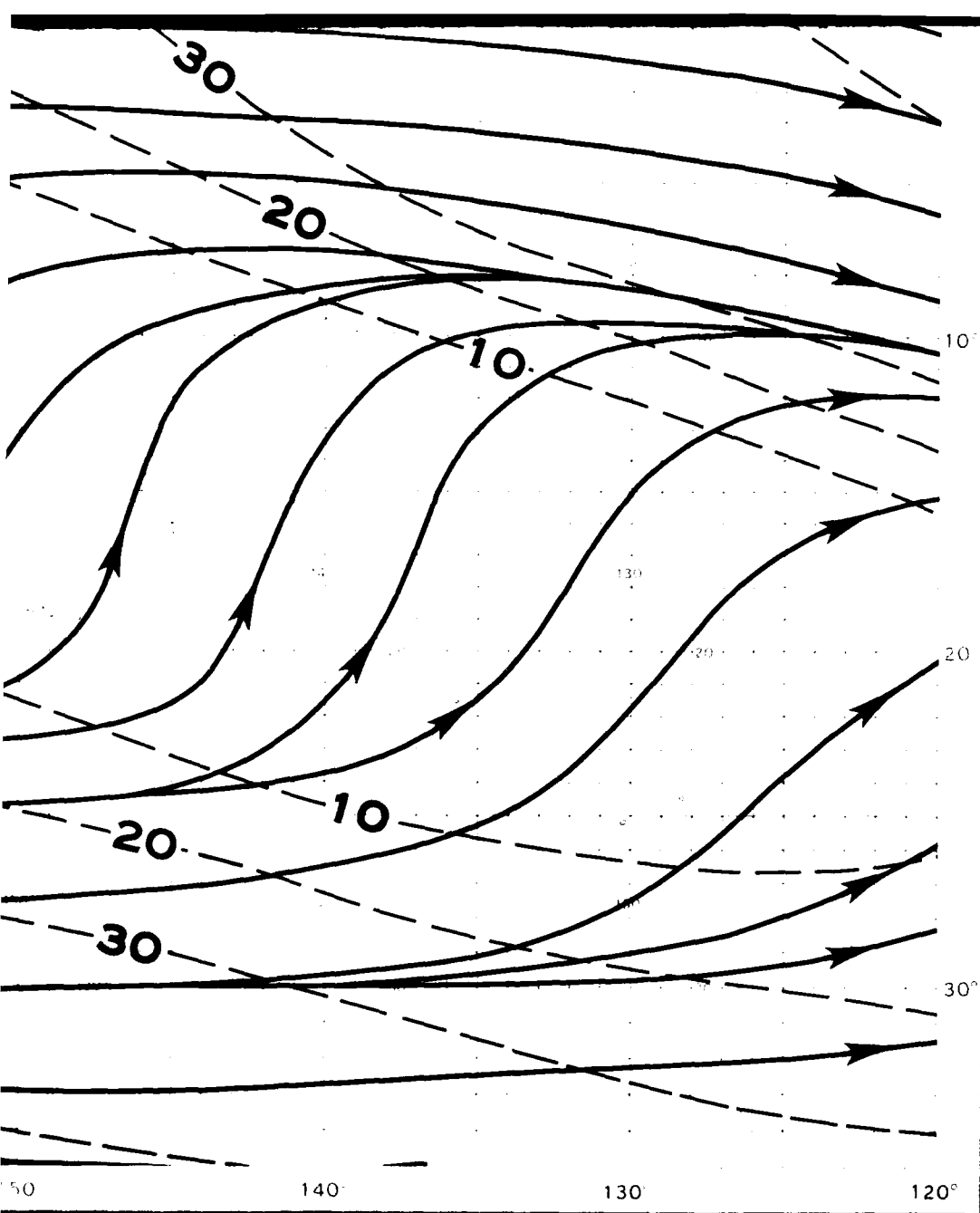
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WIND VELOCITY PROJECTION  
ON A 1000' SCALE  
FOR A 10' WIND AND 10' W

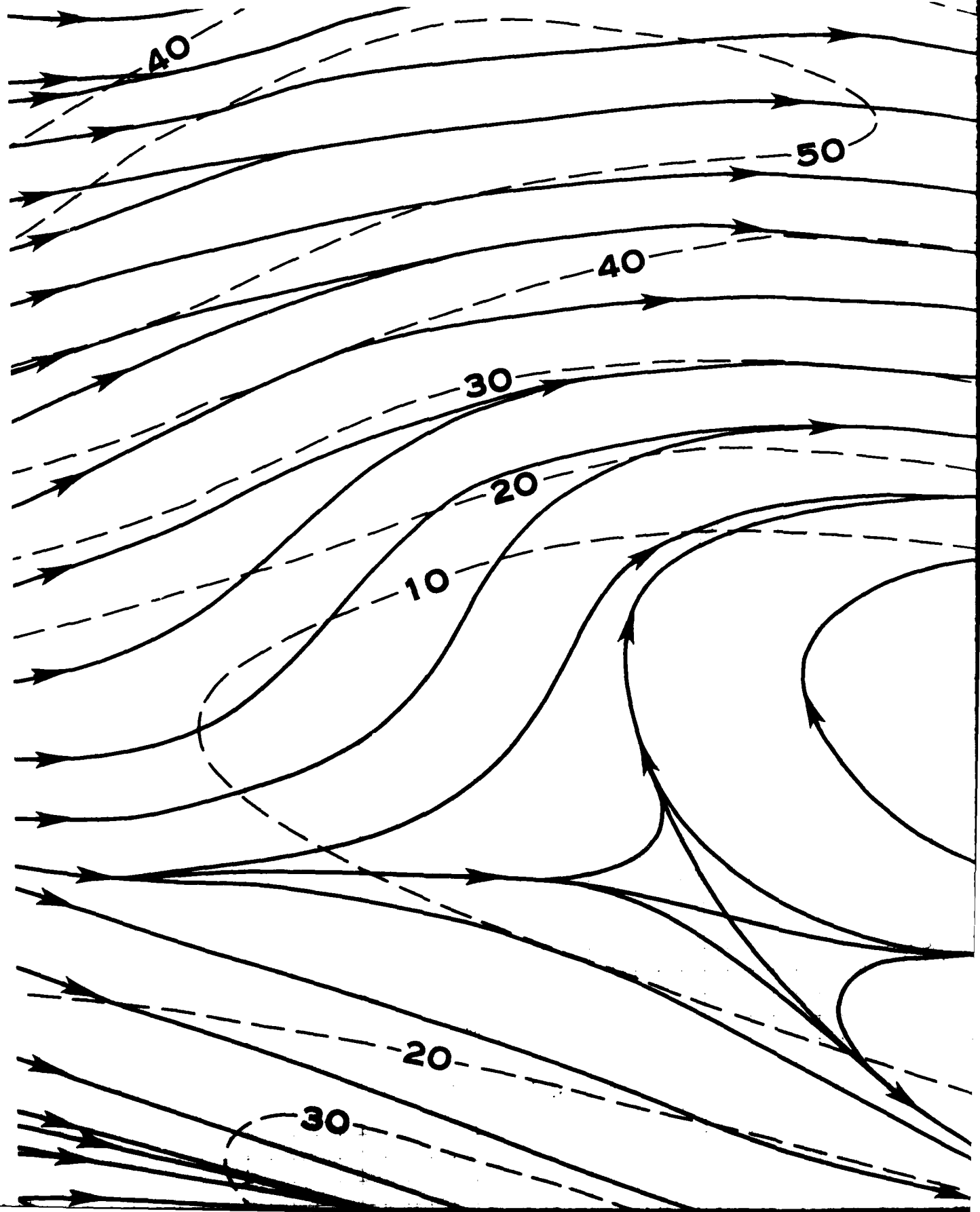
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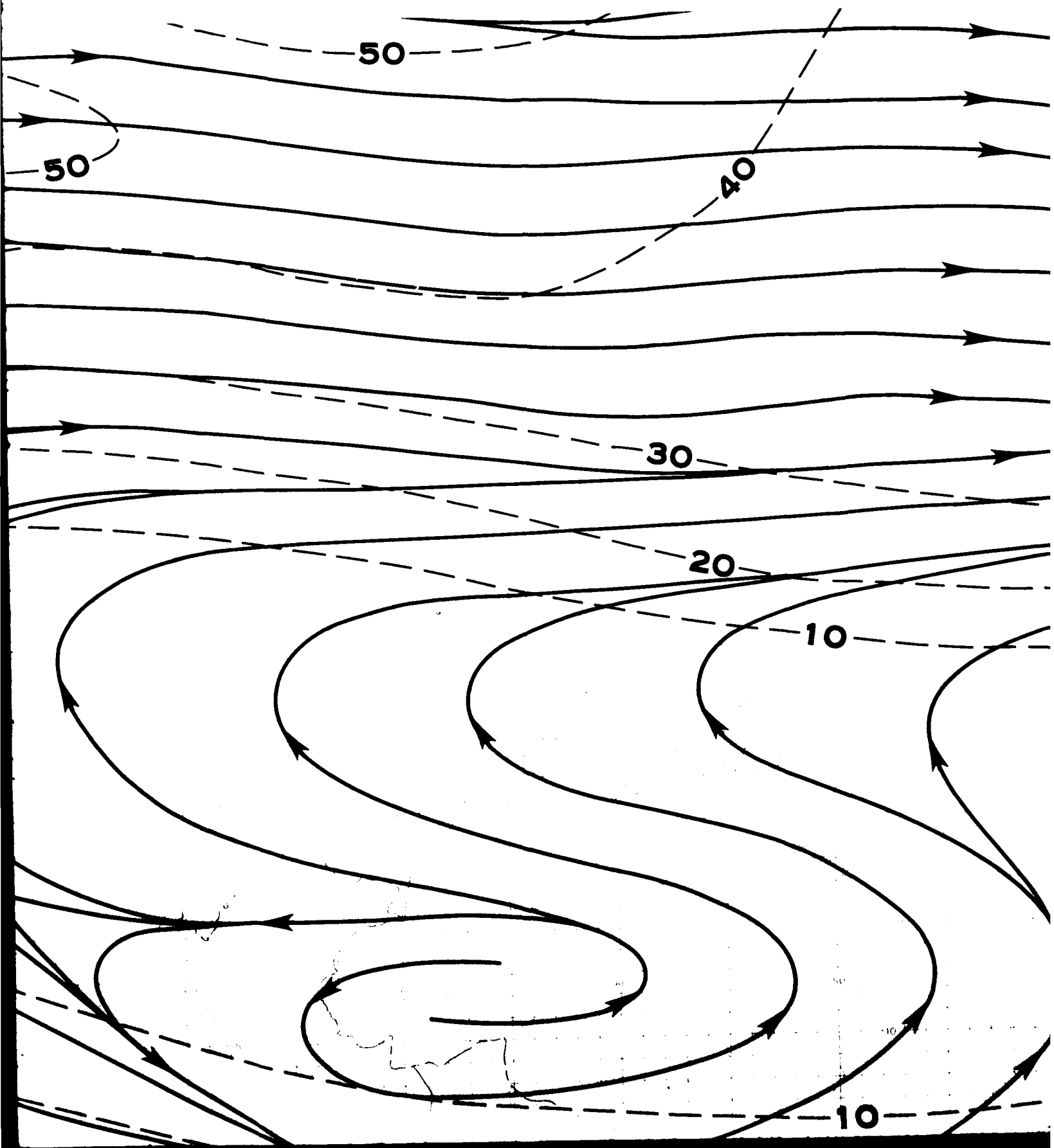


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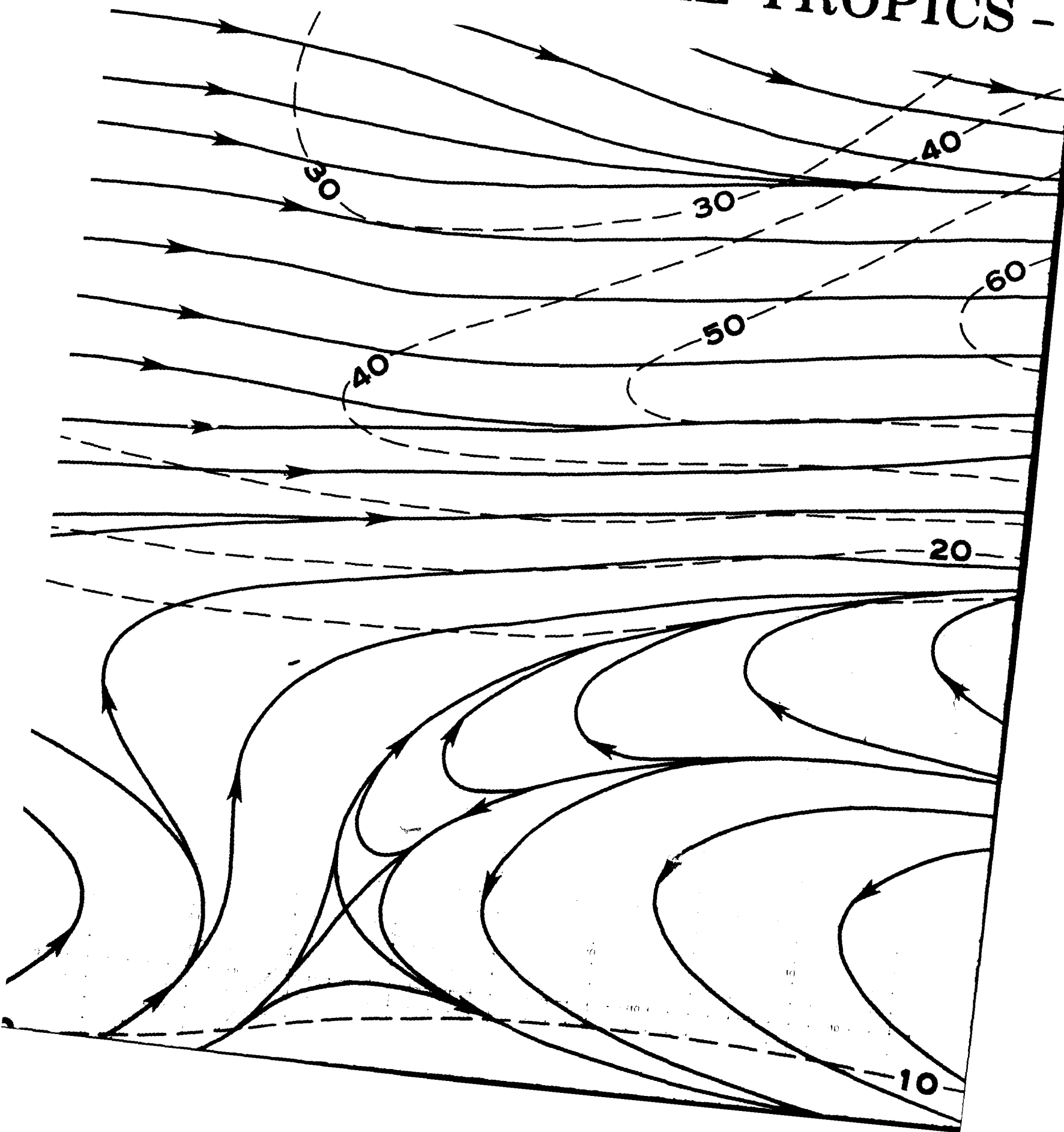




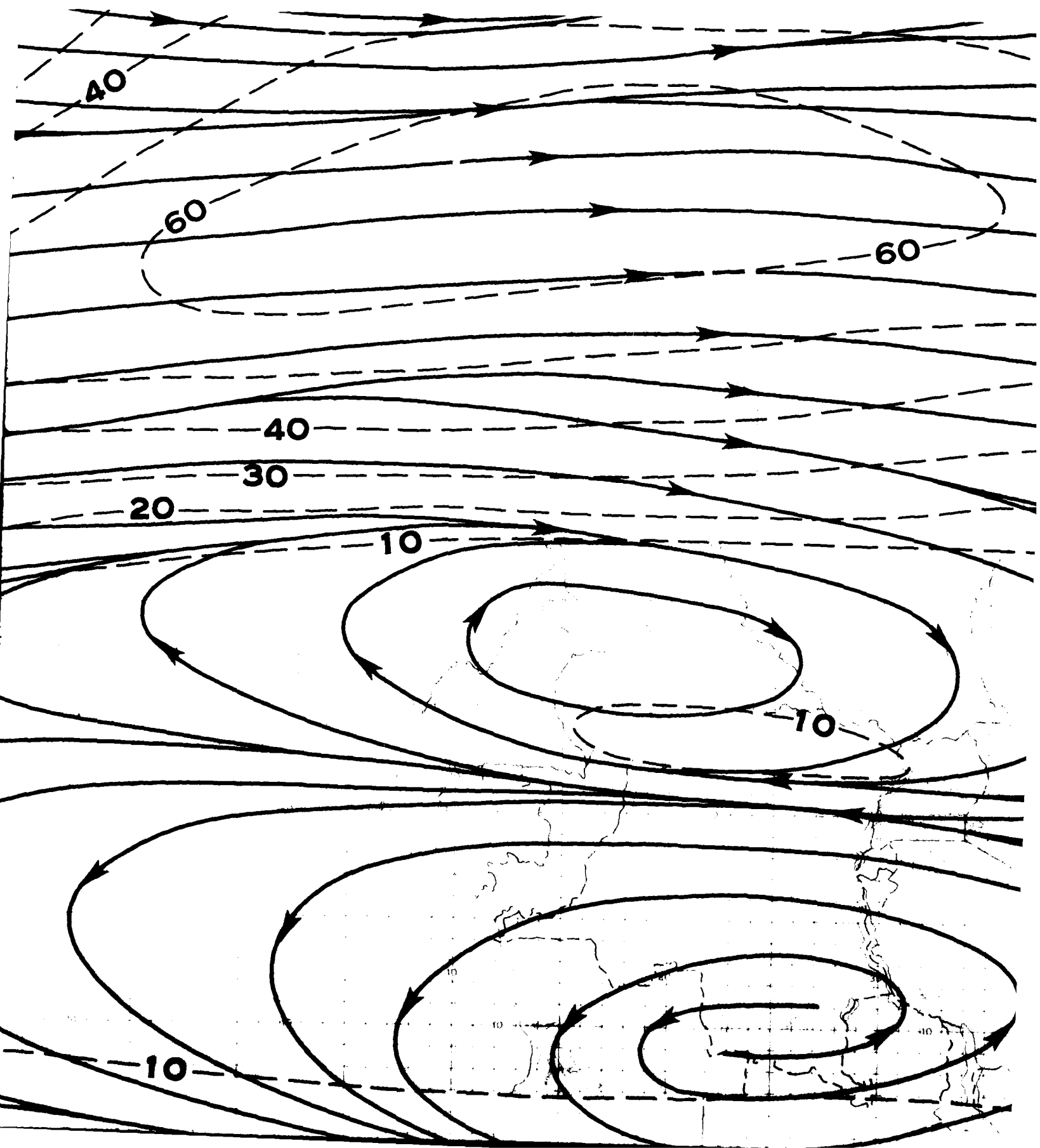
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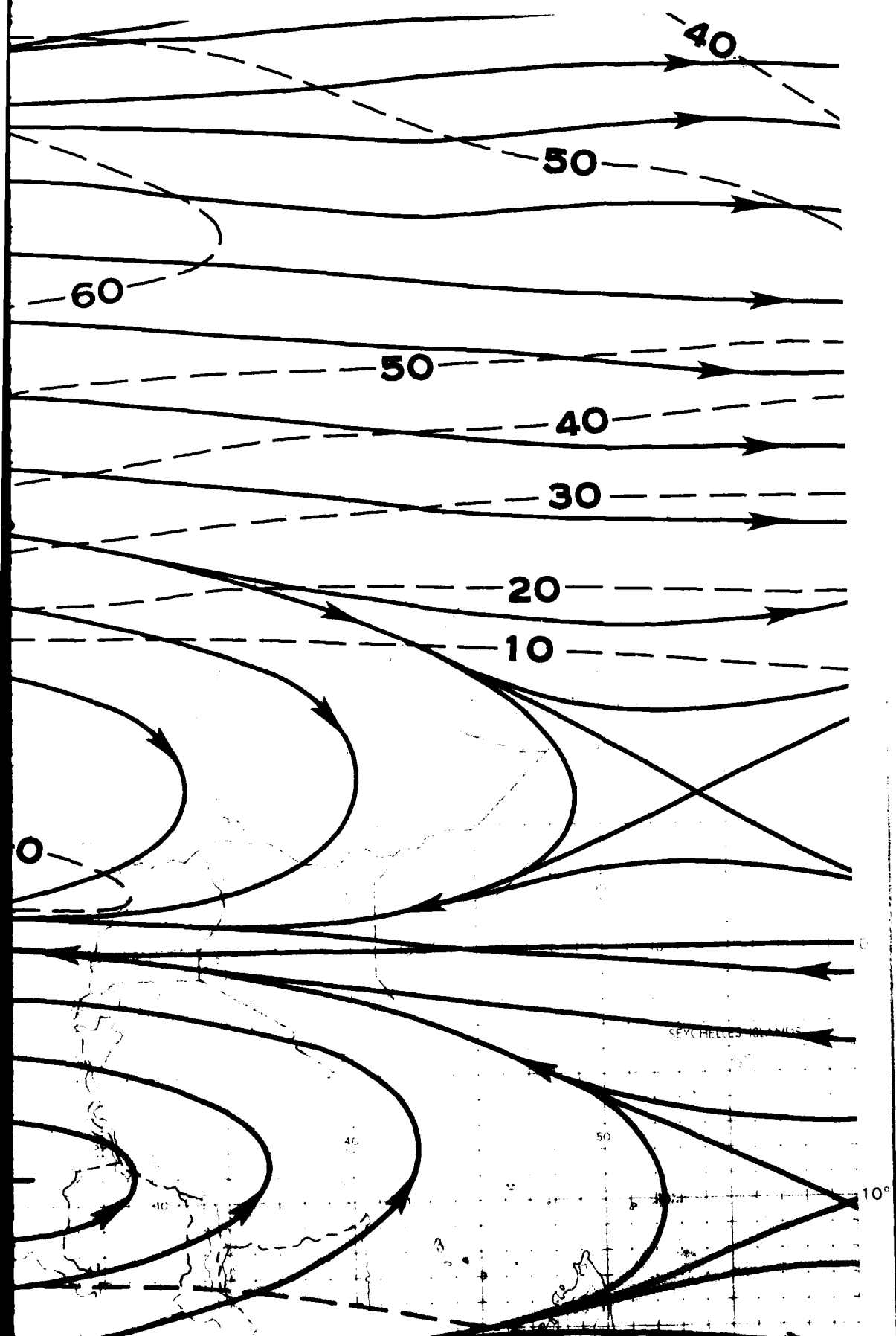
# WINDS over GLOBAL TROPICS -

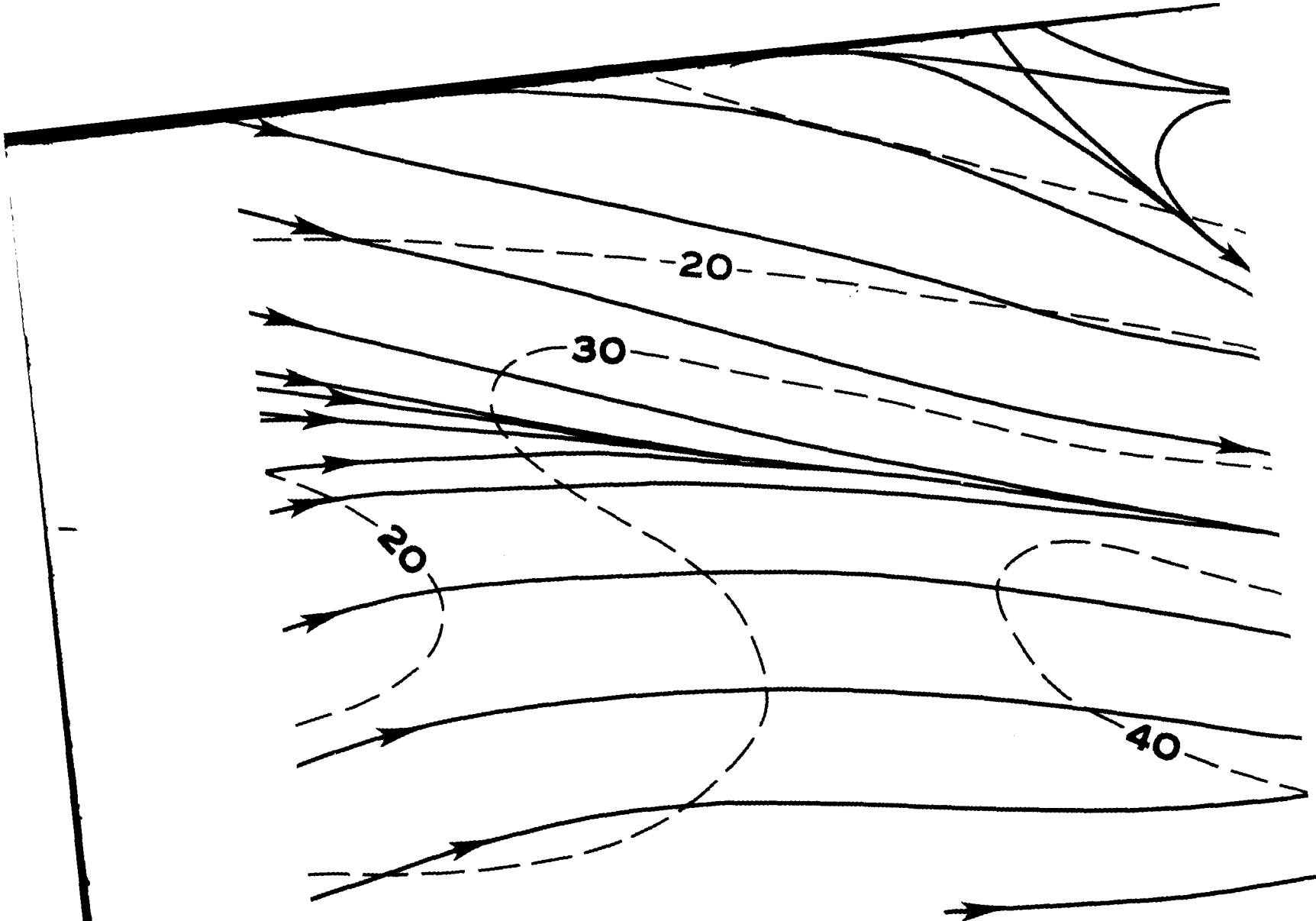


# PICS - APRIL 300mb

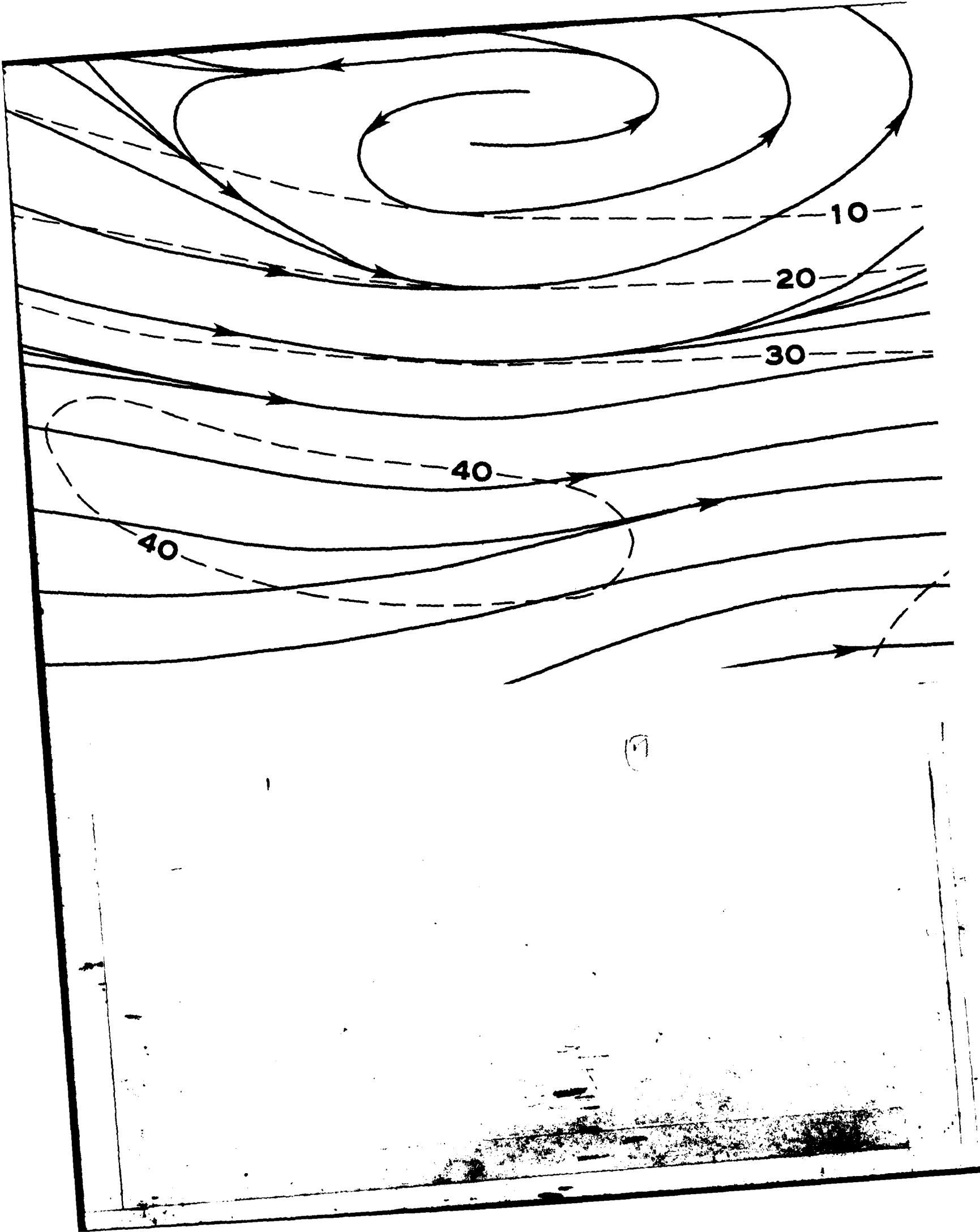


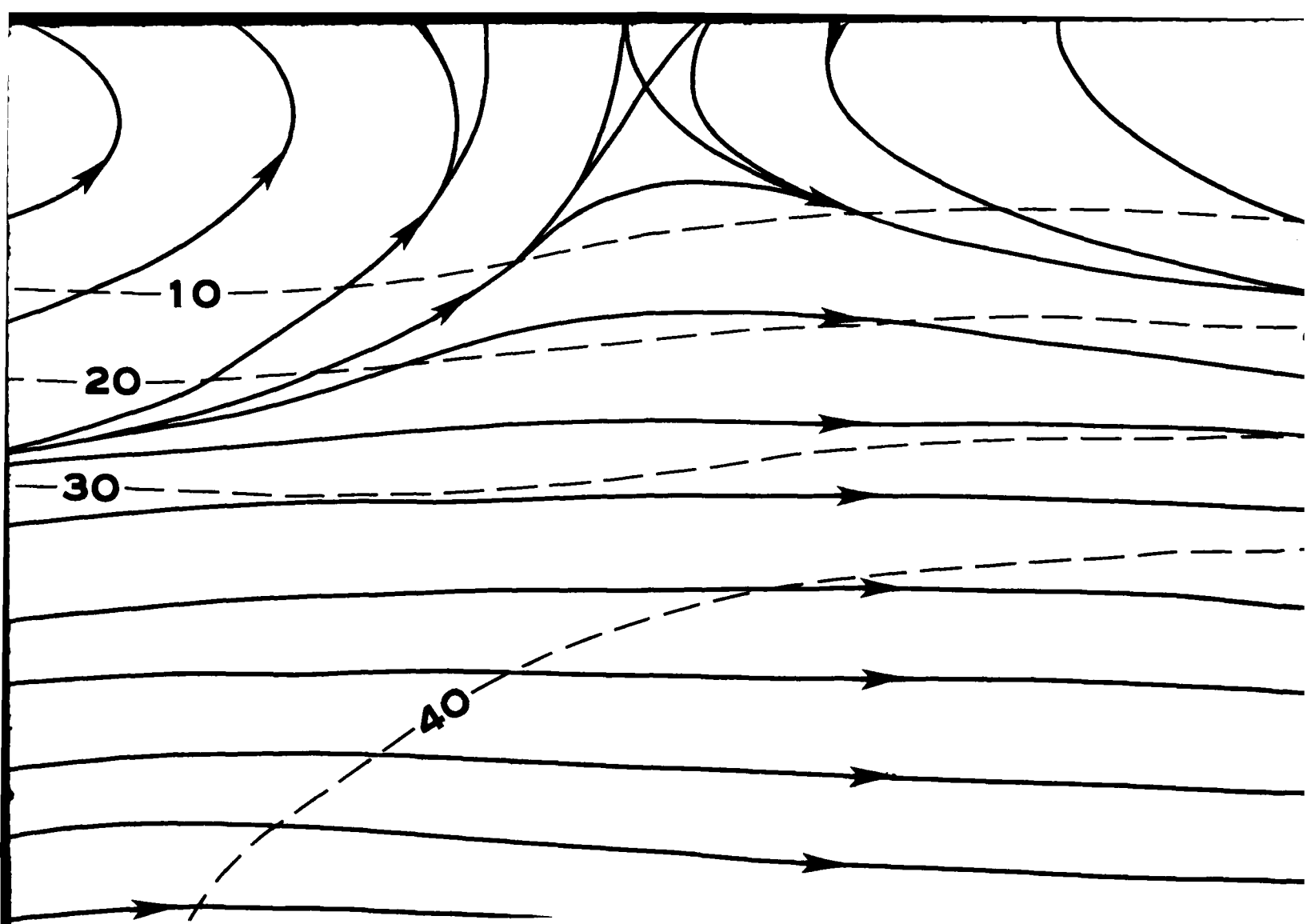
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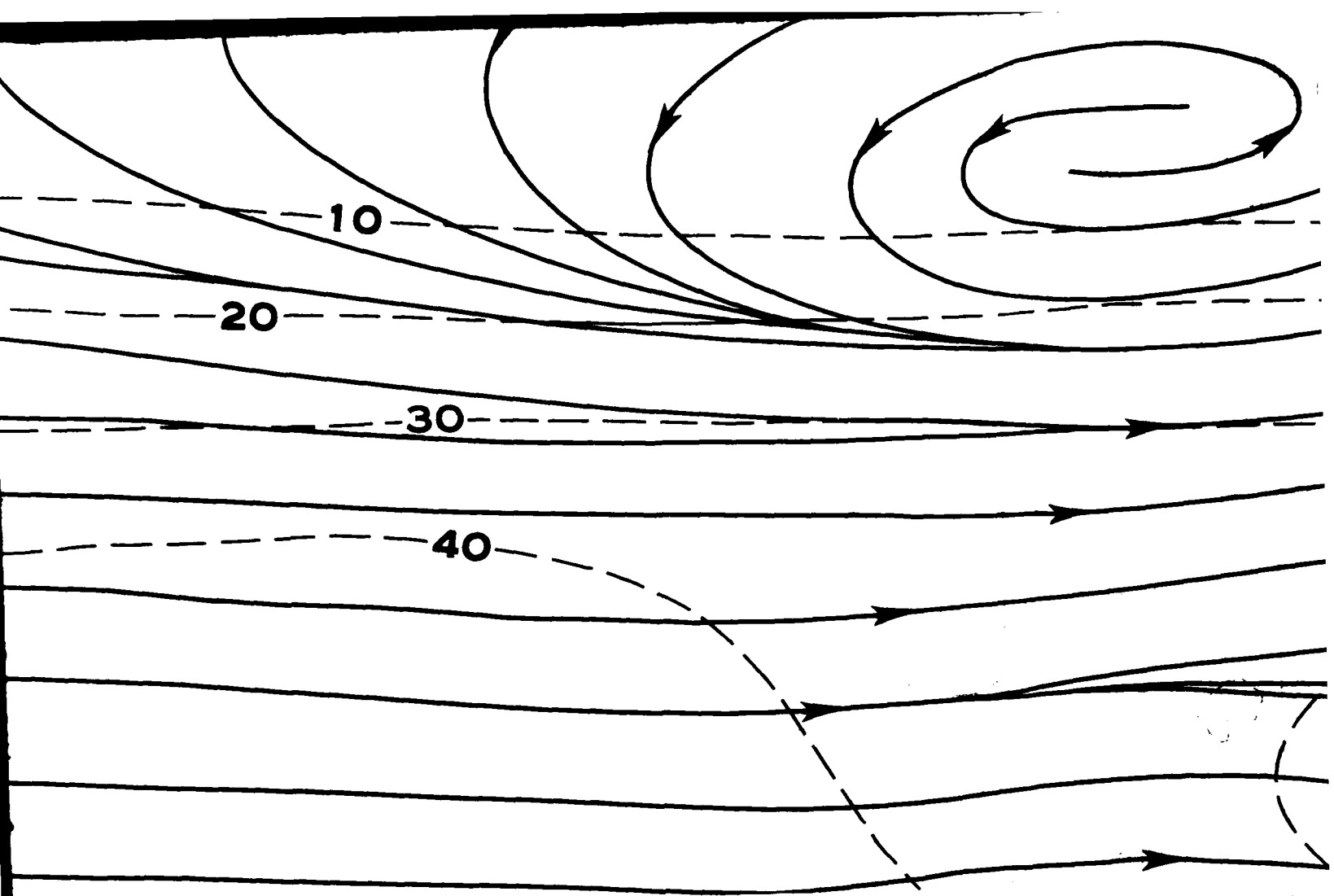
16

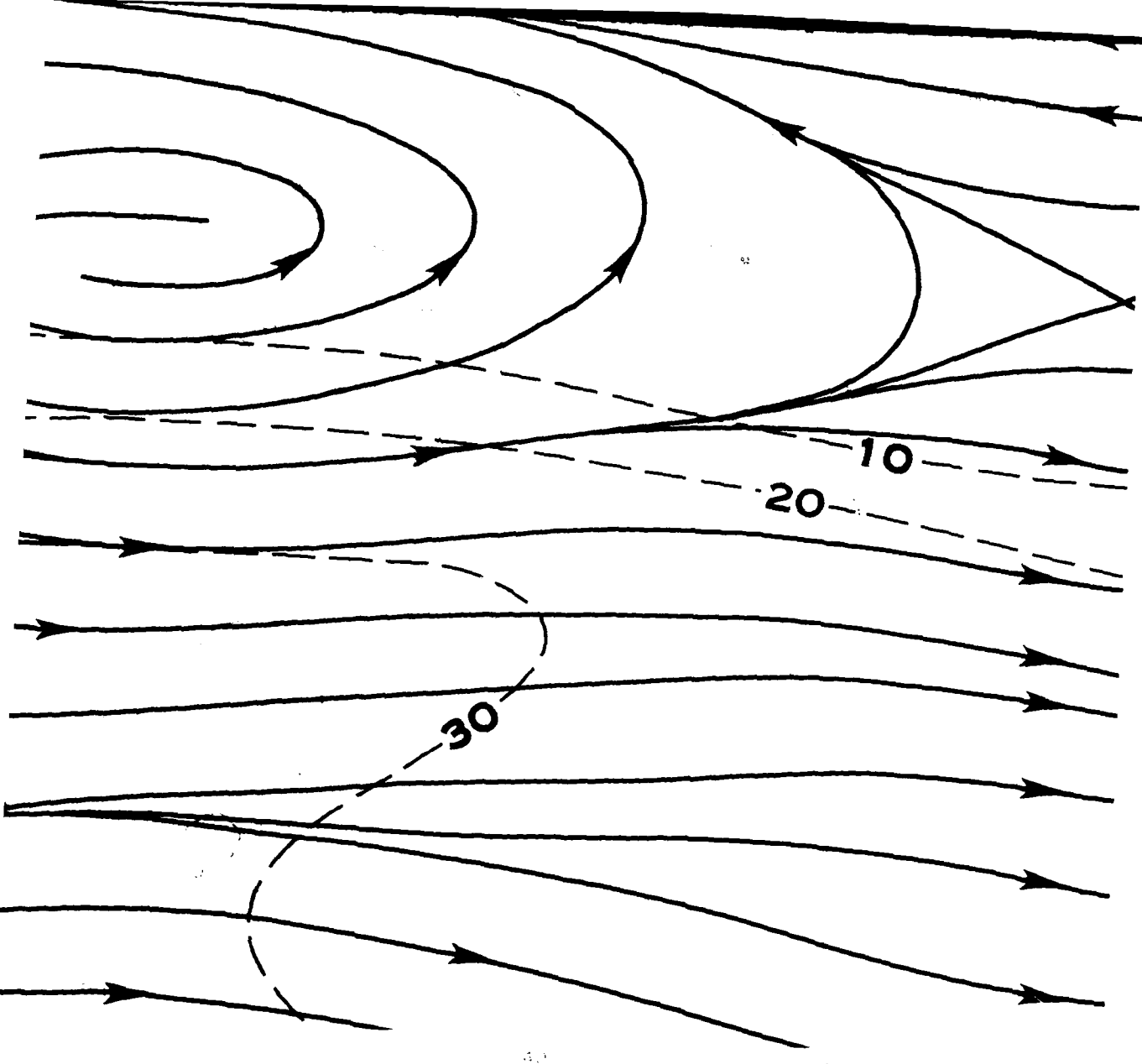




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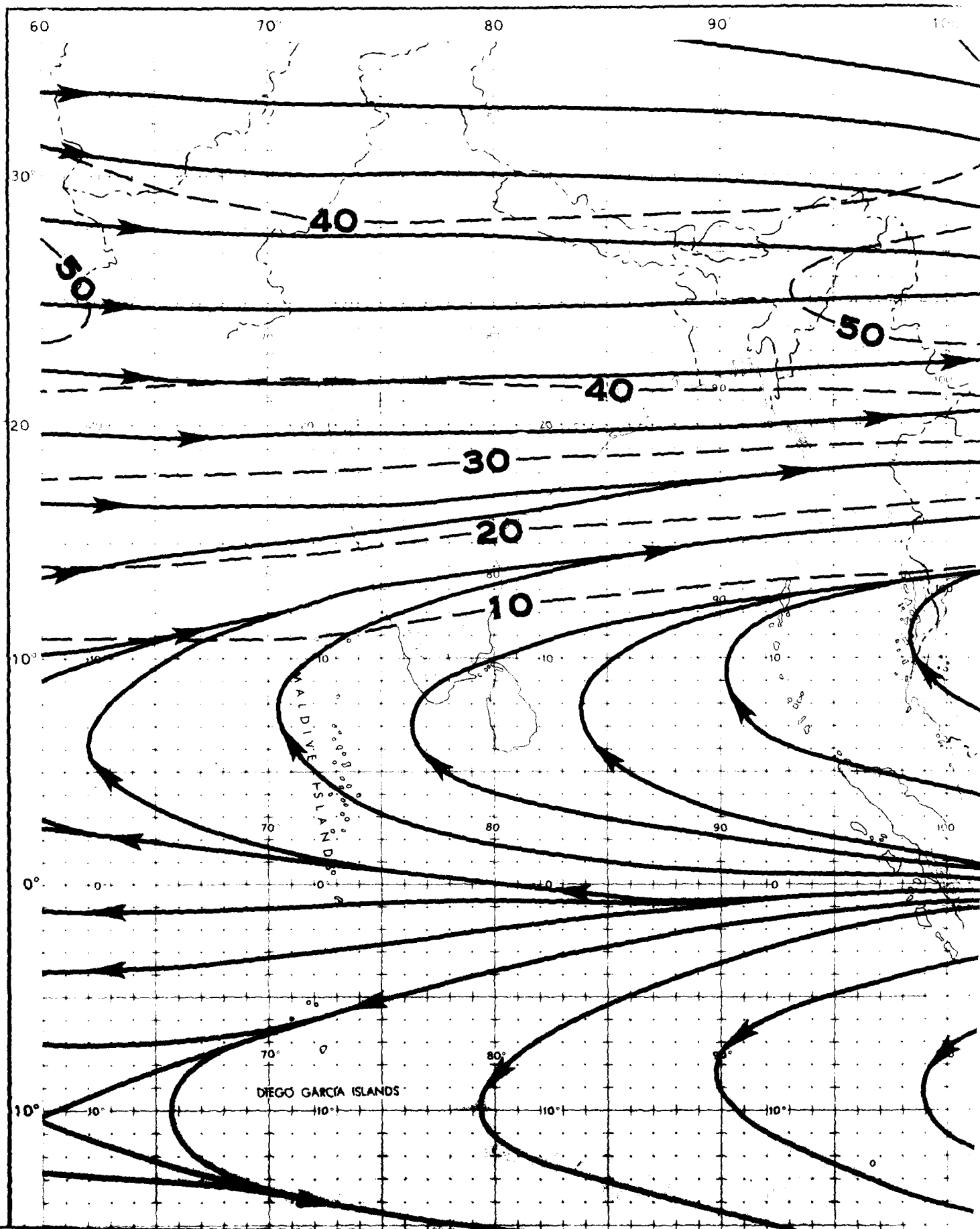




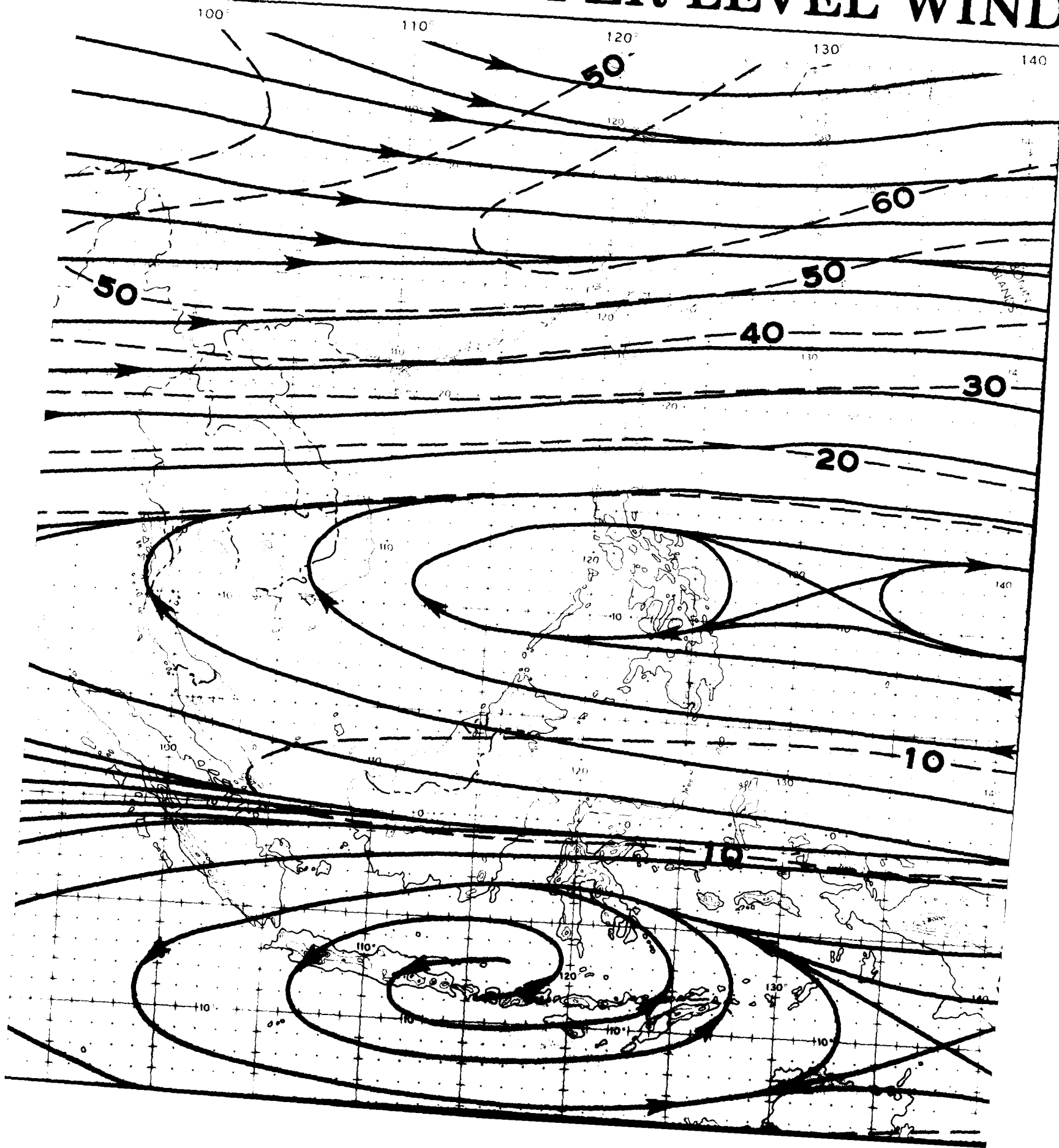


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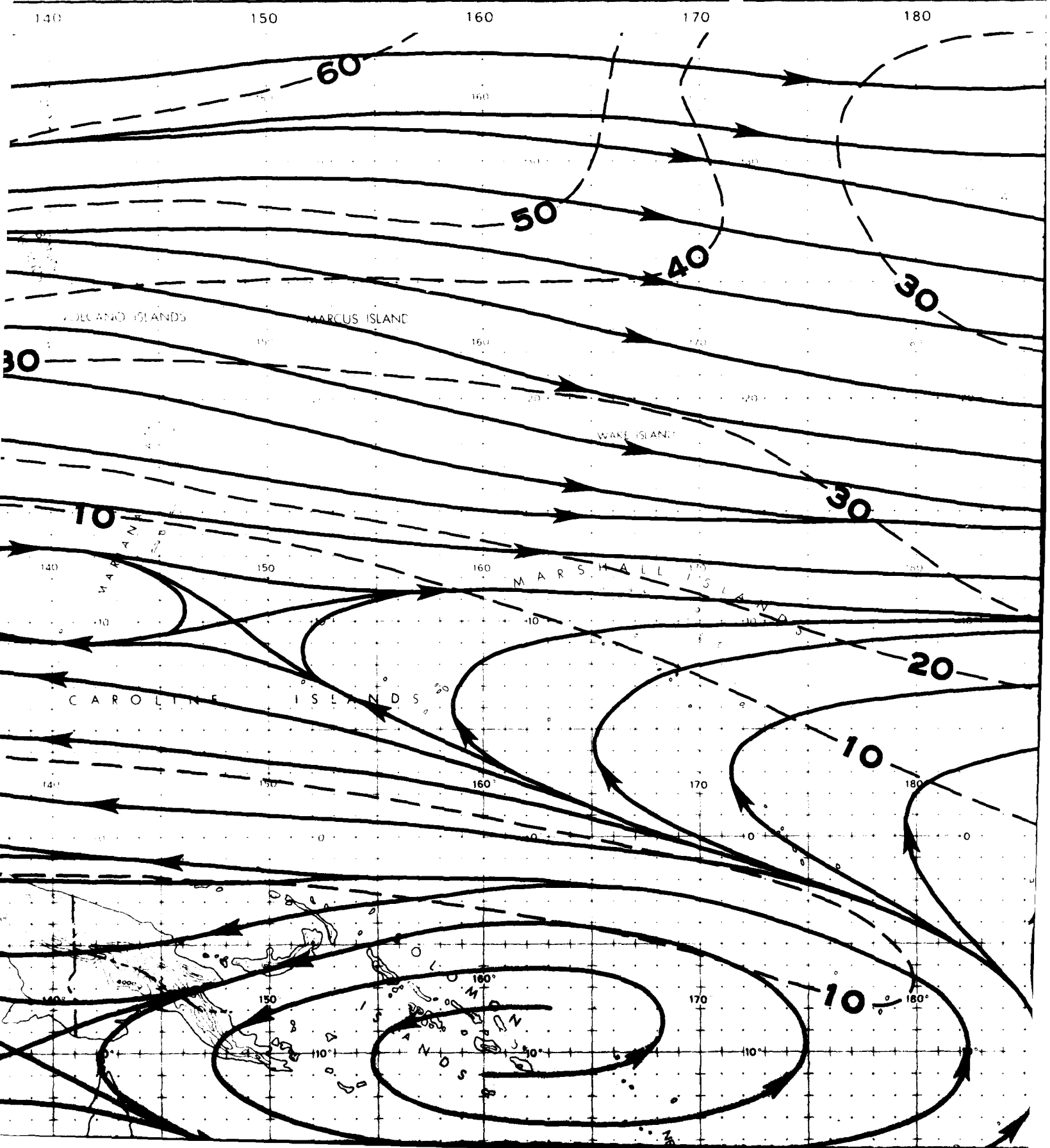
MULW-304W



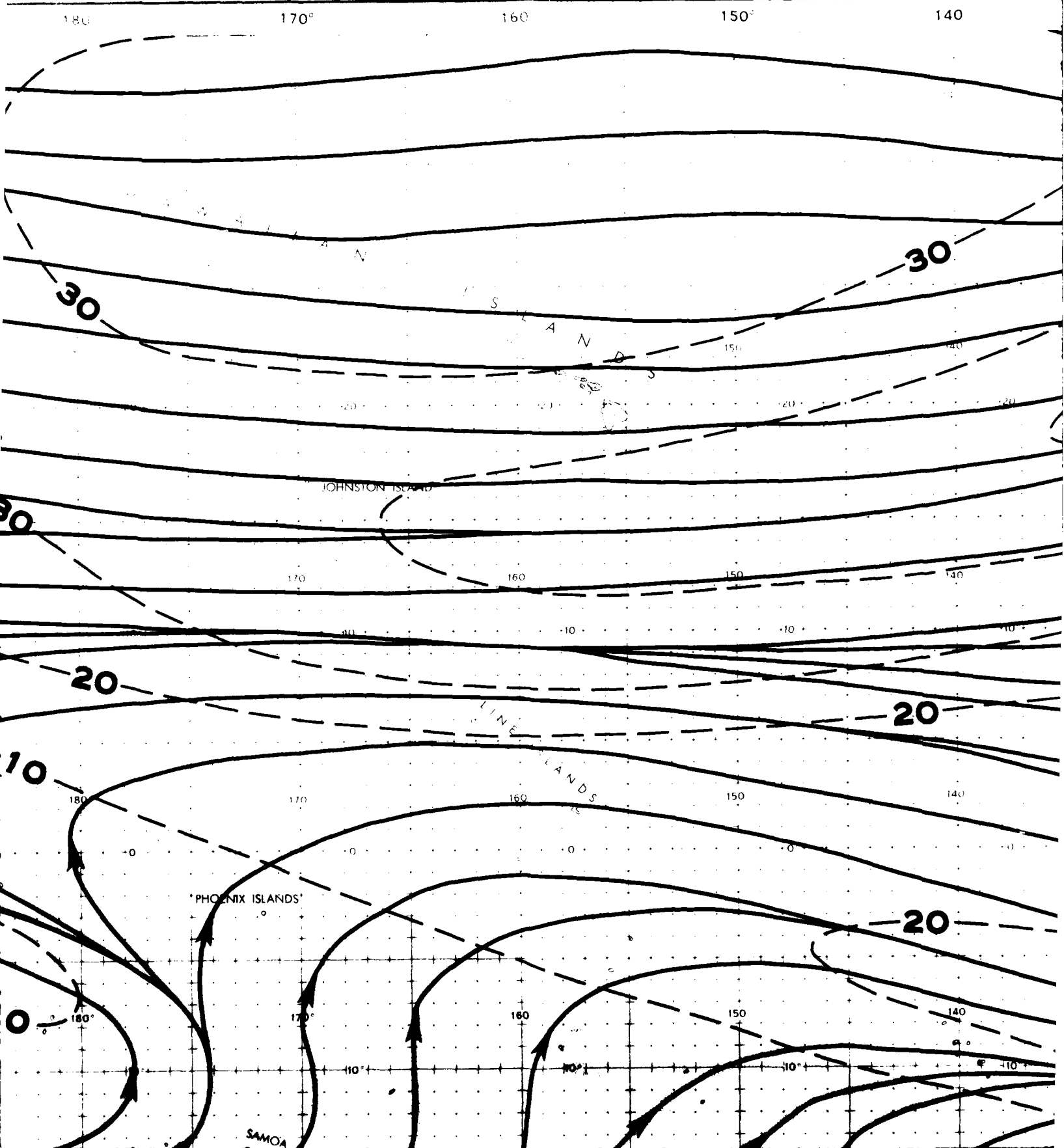
# MEAN UPPER LEVEL WIND

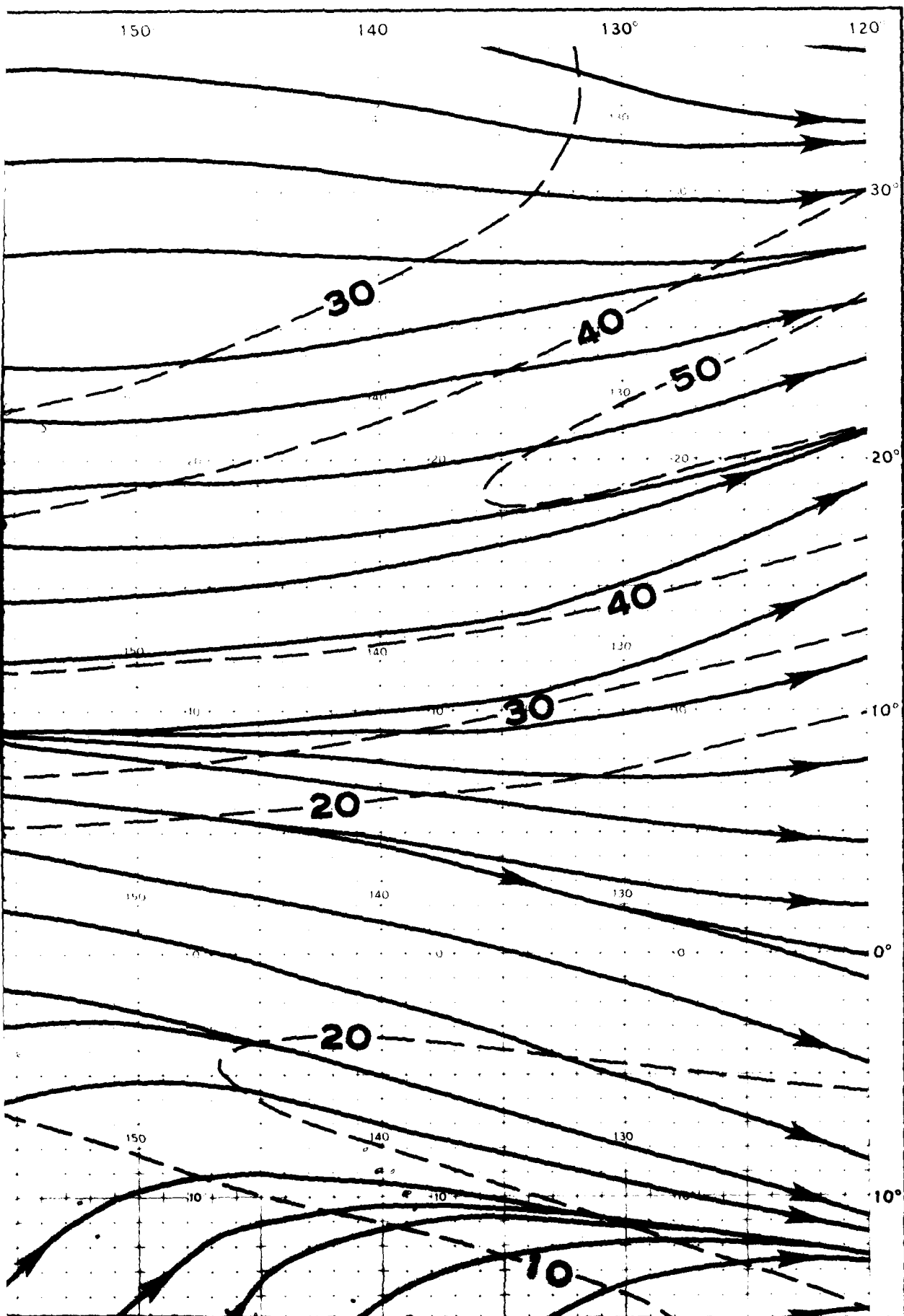


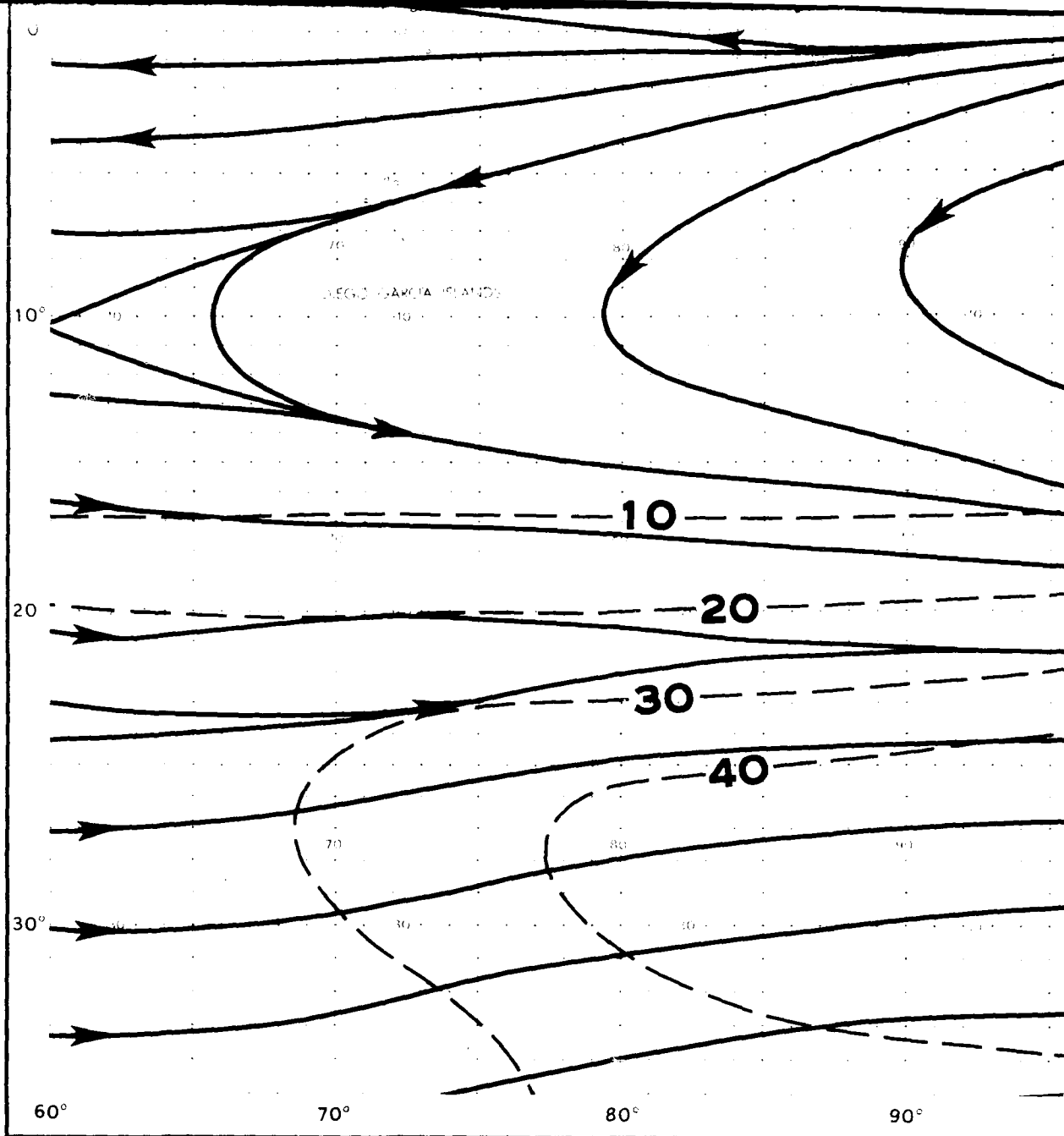
# WINDS over GLOBAL TROPICS - APRIL



# - APRIL 300mb



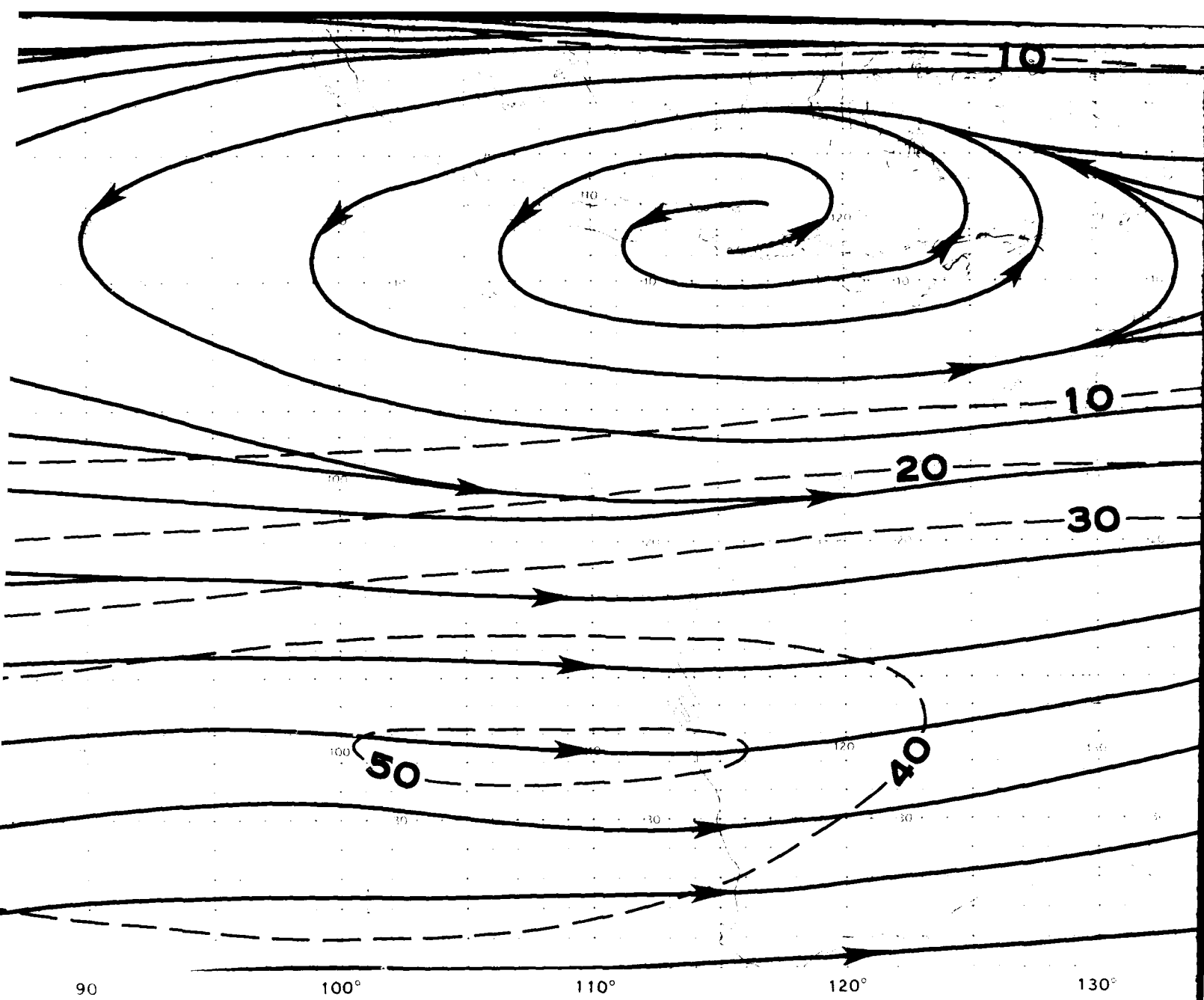




PUBLISHED BY THE DEFENSE MAPPING AGENCY AFROSPACE CENTER  
ST. LOUIS AIR FORCE STATION, MISSOURI 63118  
EDITION 1 JANUARY 1983

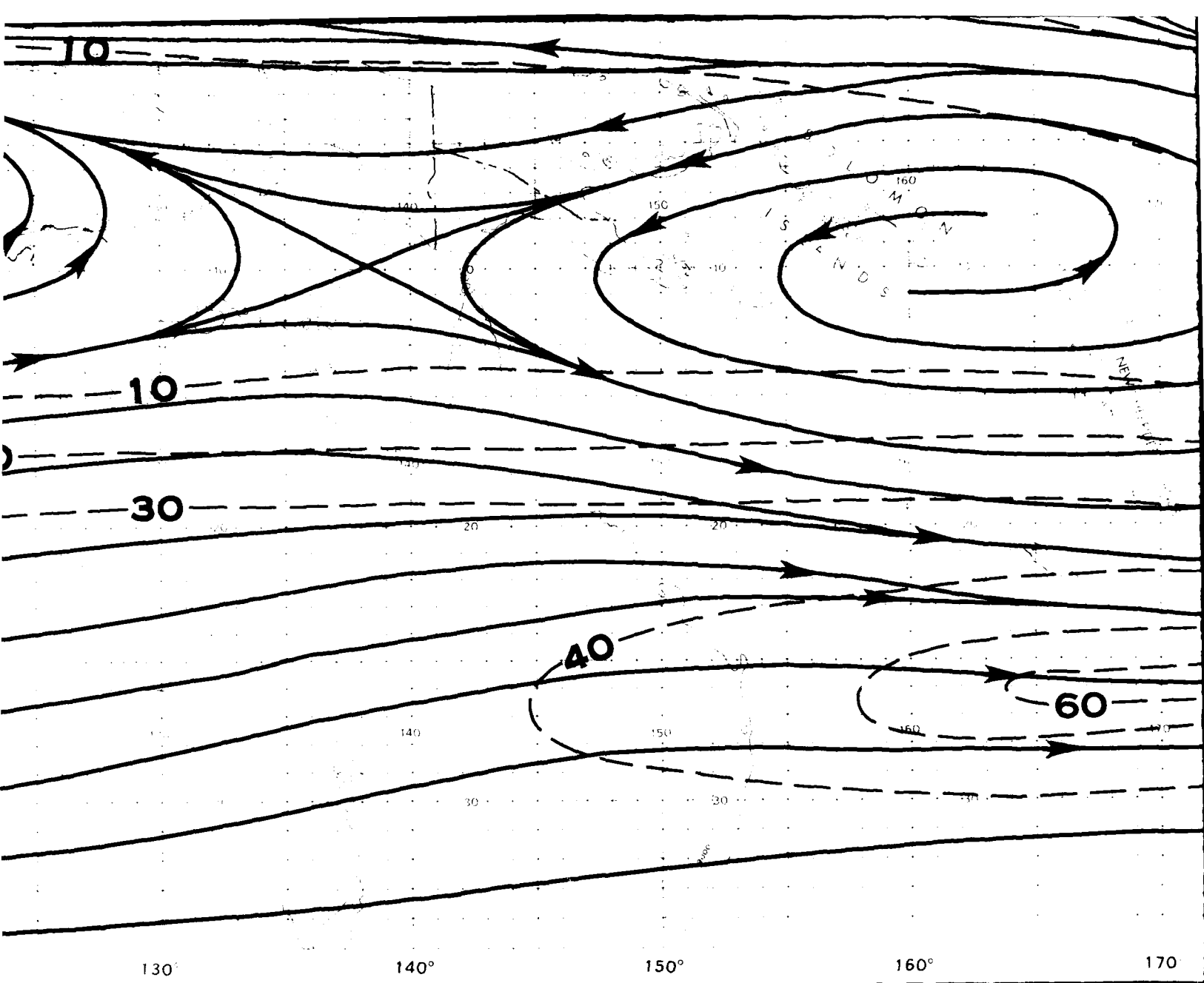
ANALYZED MEAN DATA  
PROVIDED BY JAMES C. SADLER  
UNIVERSITY OF HAWAII



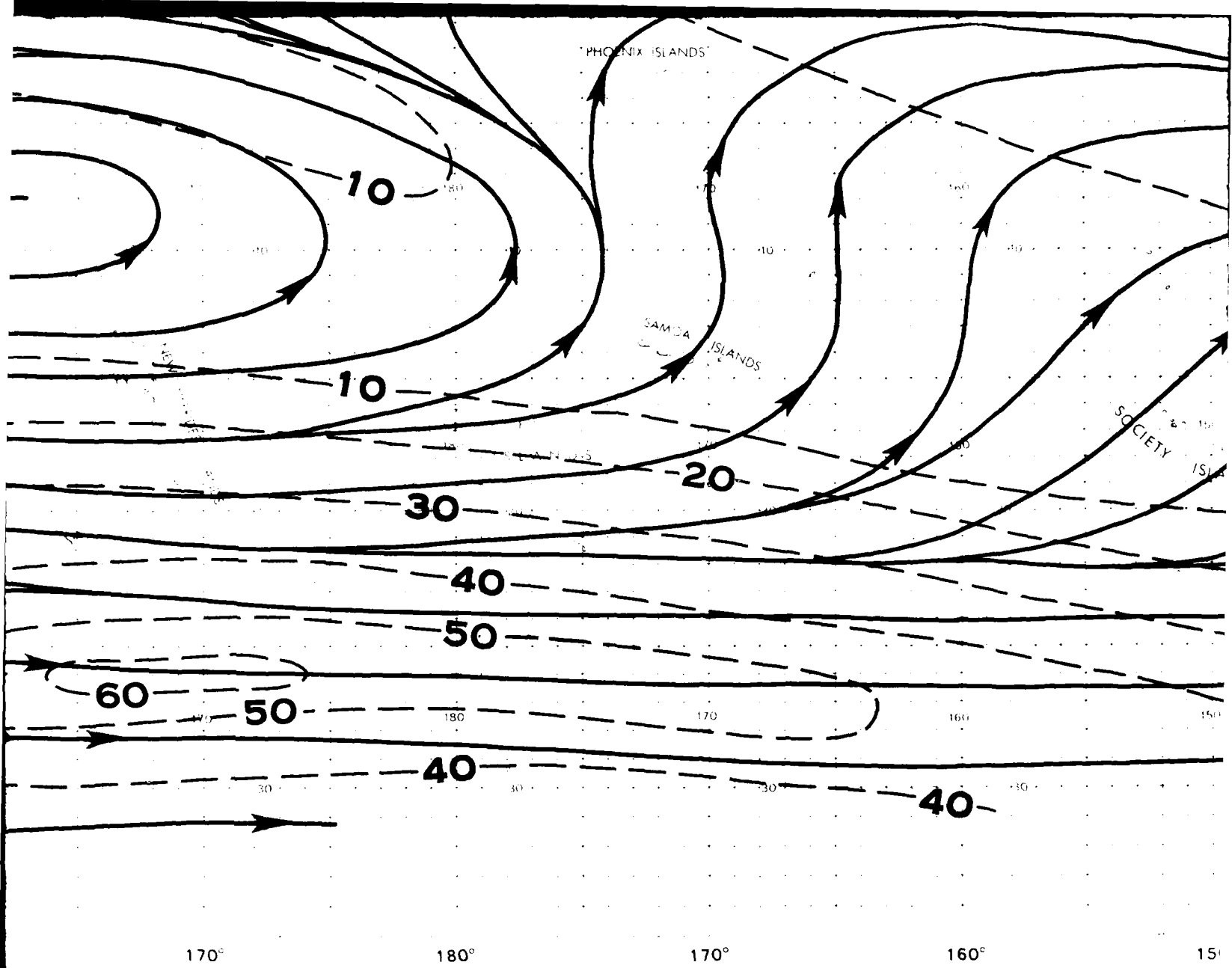


The representation of international boundaries  
on this chart is not necessarily authoritative.

7

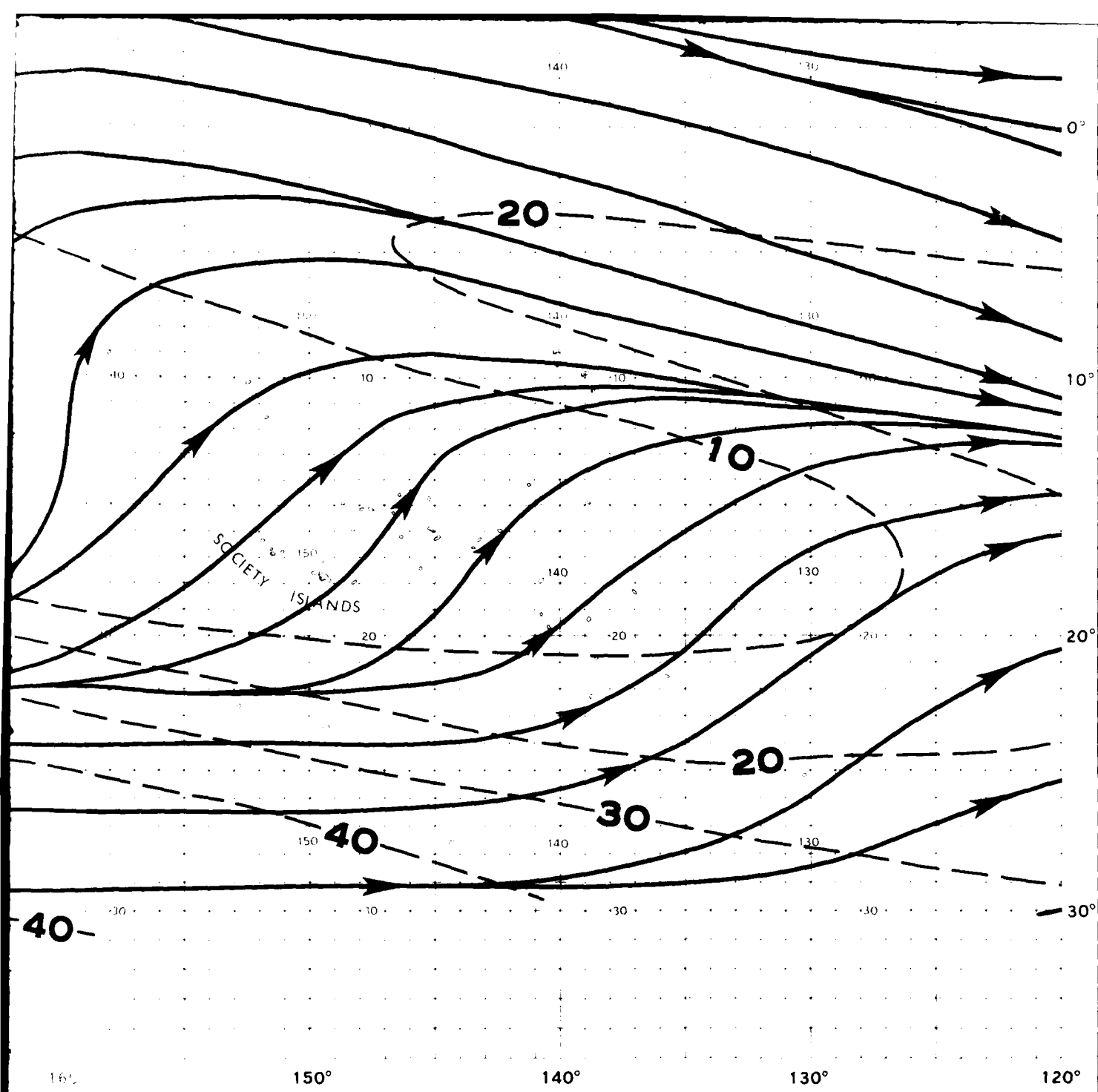


MERCATOR PROJECTION  
SCALE 1:20,000,000  
TRUE AT 22° 30' N AND 22° 30' S



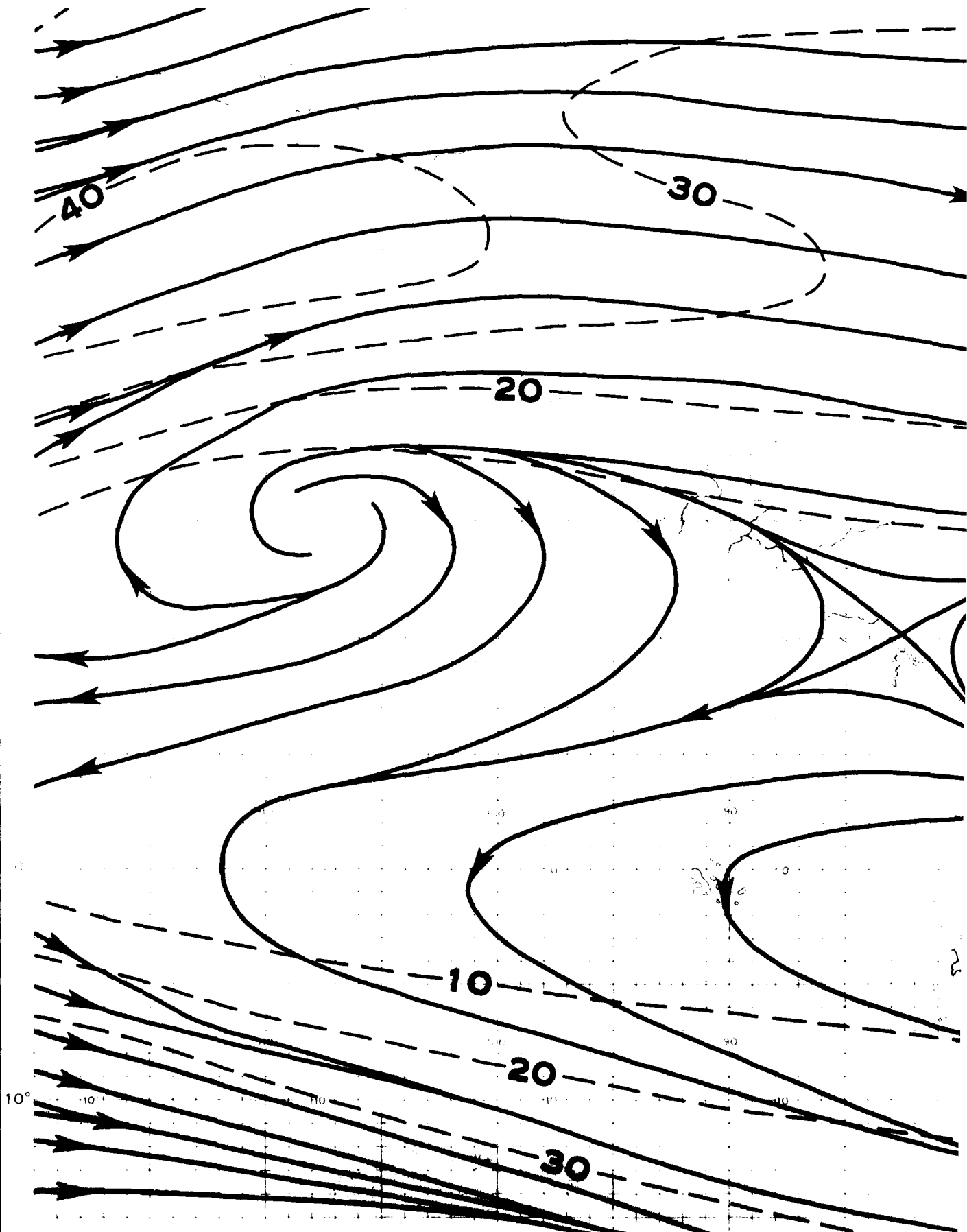
Lithographed by DMAAC 683

9

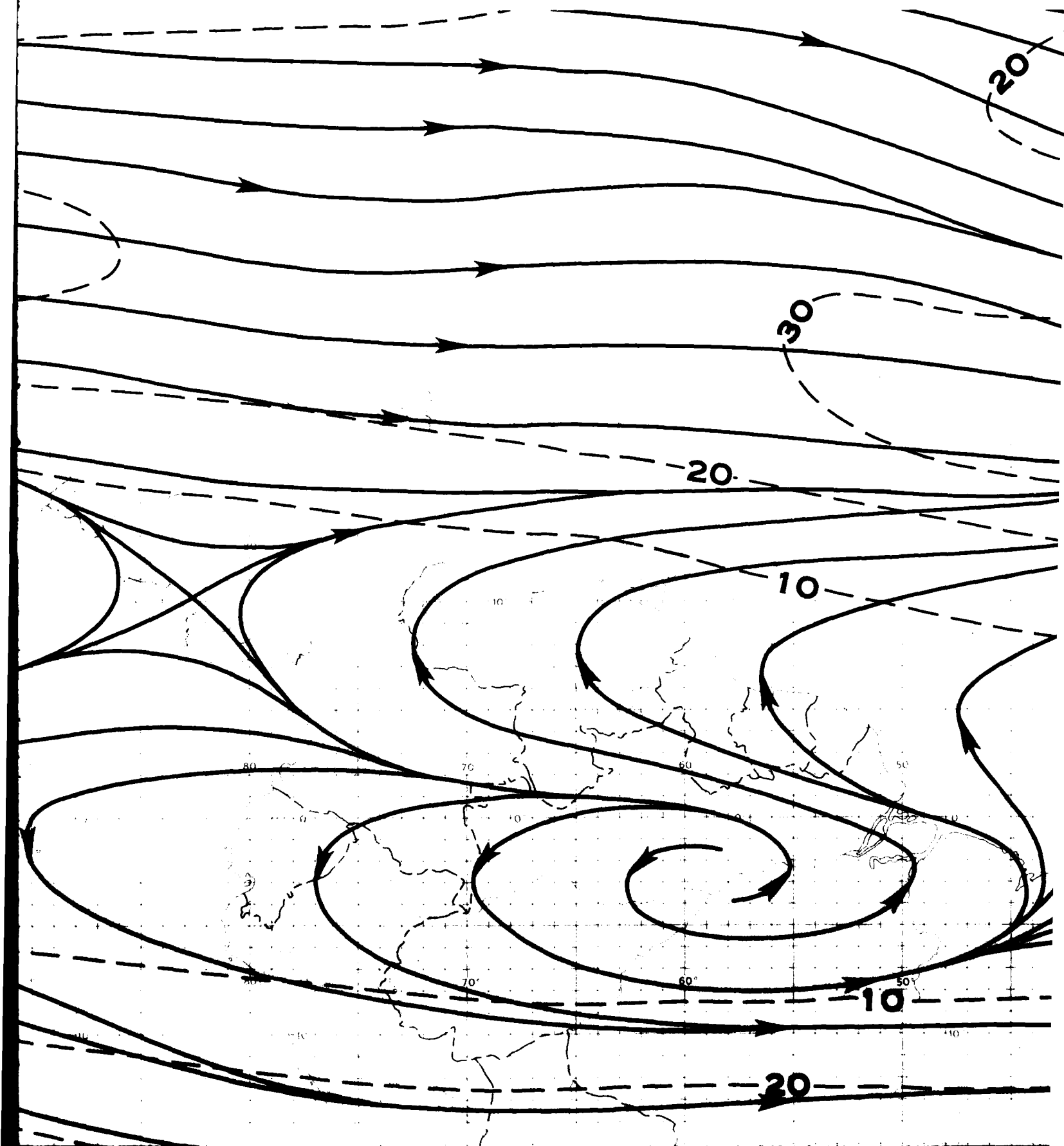


MULW-304E

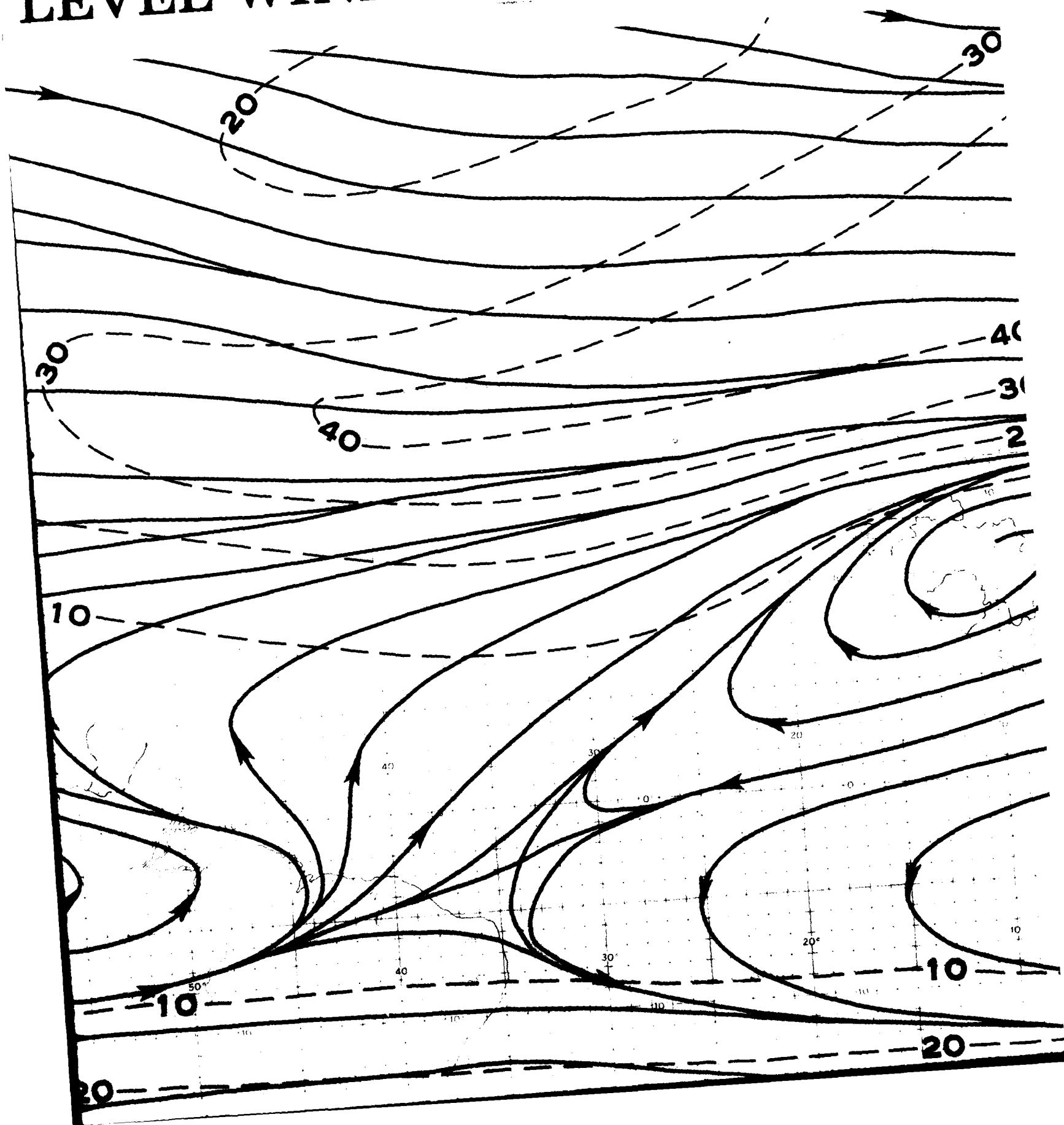
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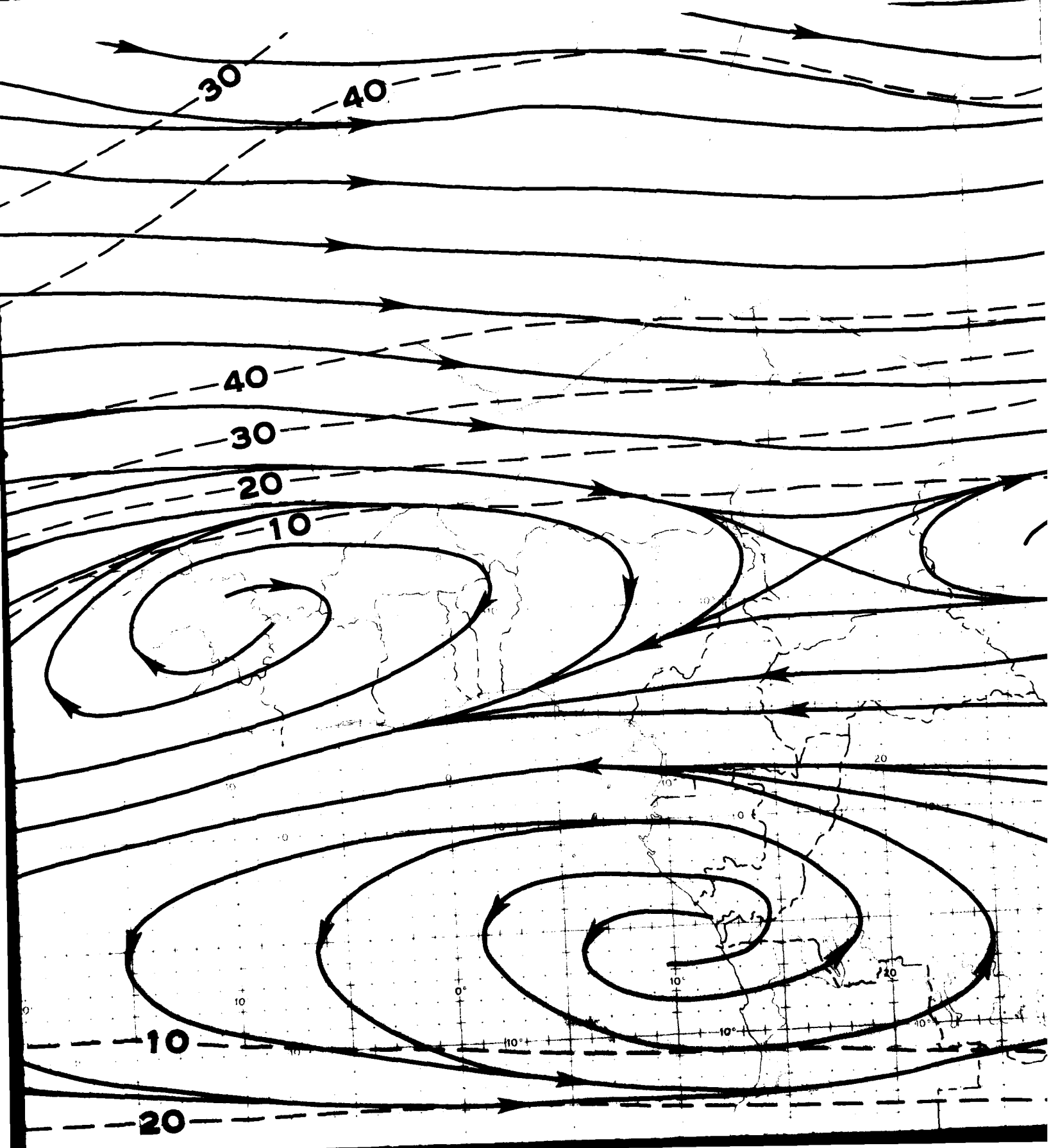
# 1 2 MEAN UPPER LEVEL W



# LEVEL WINDS over GLOBAL TROF

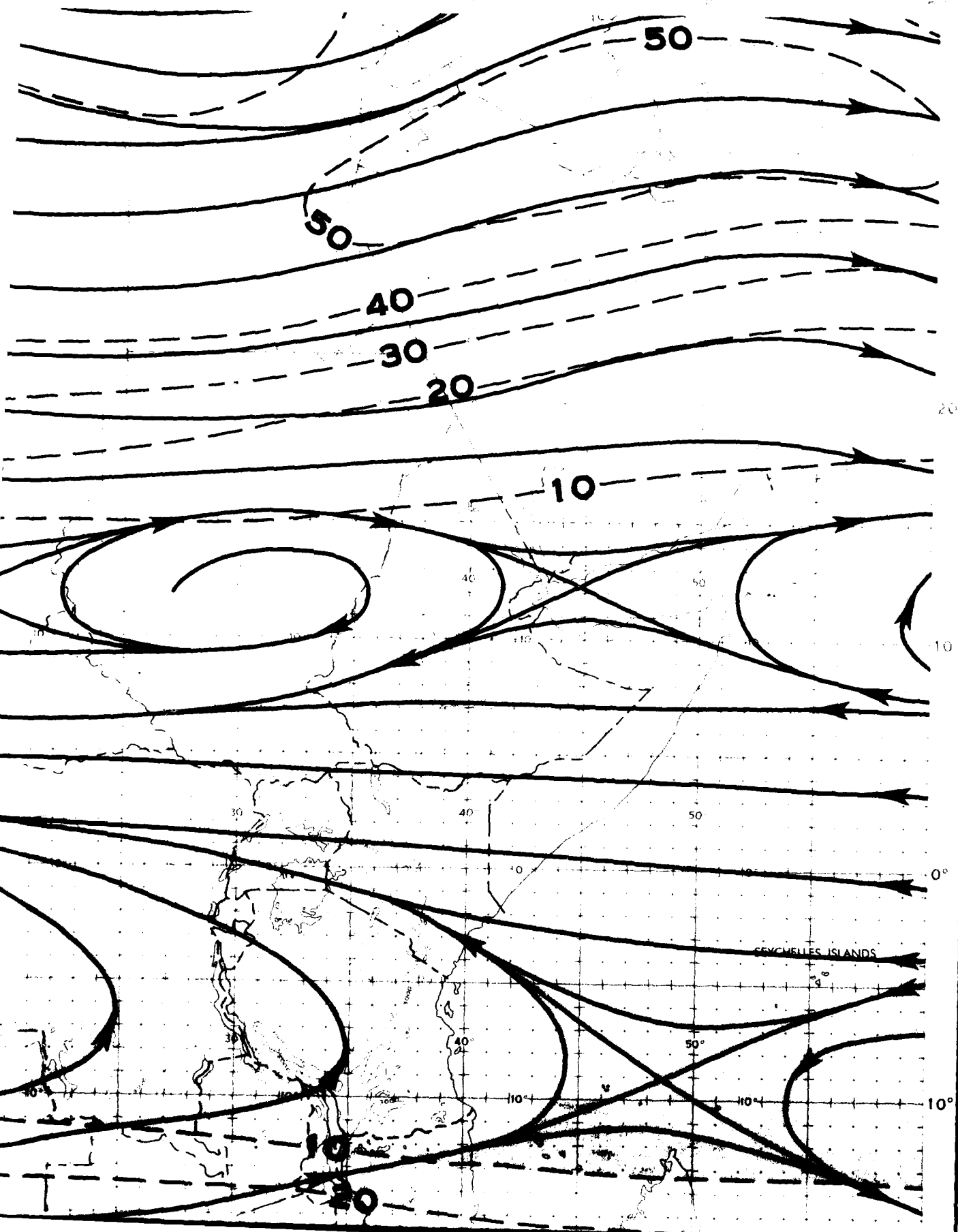


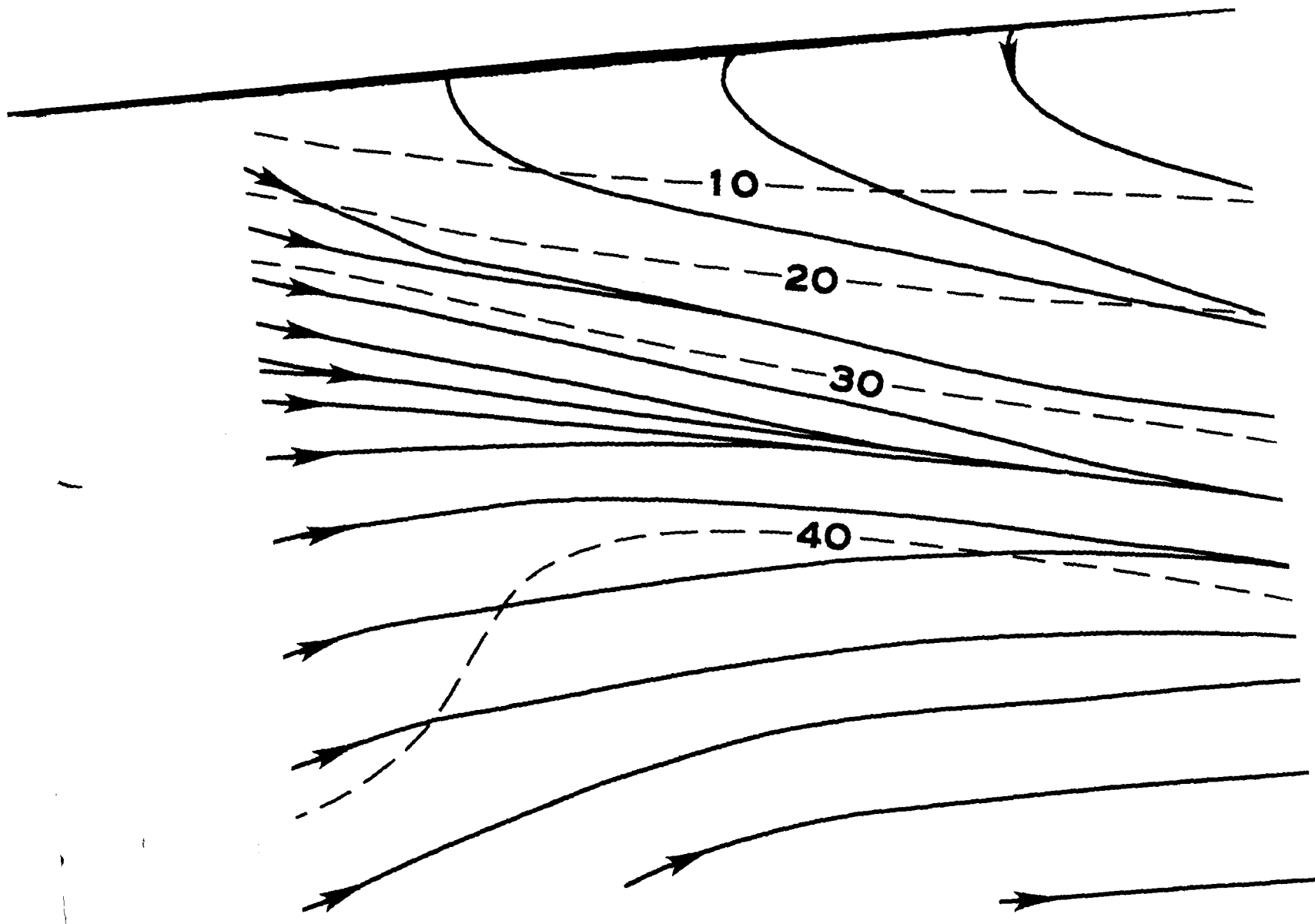
# AL TROPICS - MAY 300mb (14)



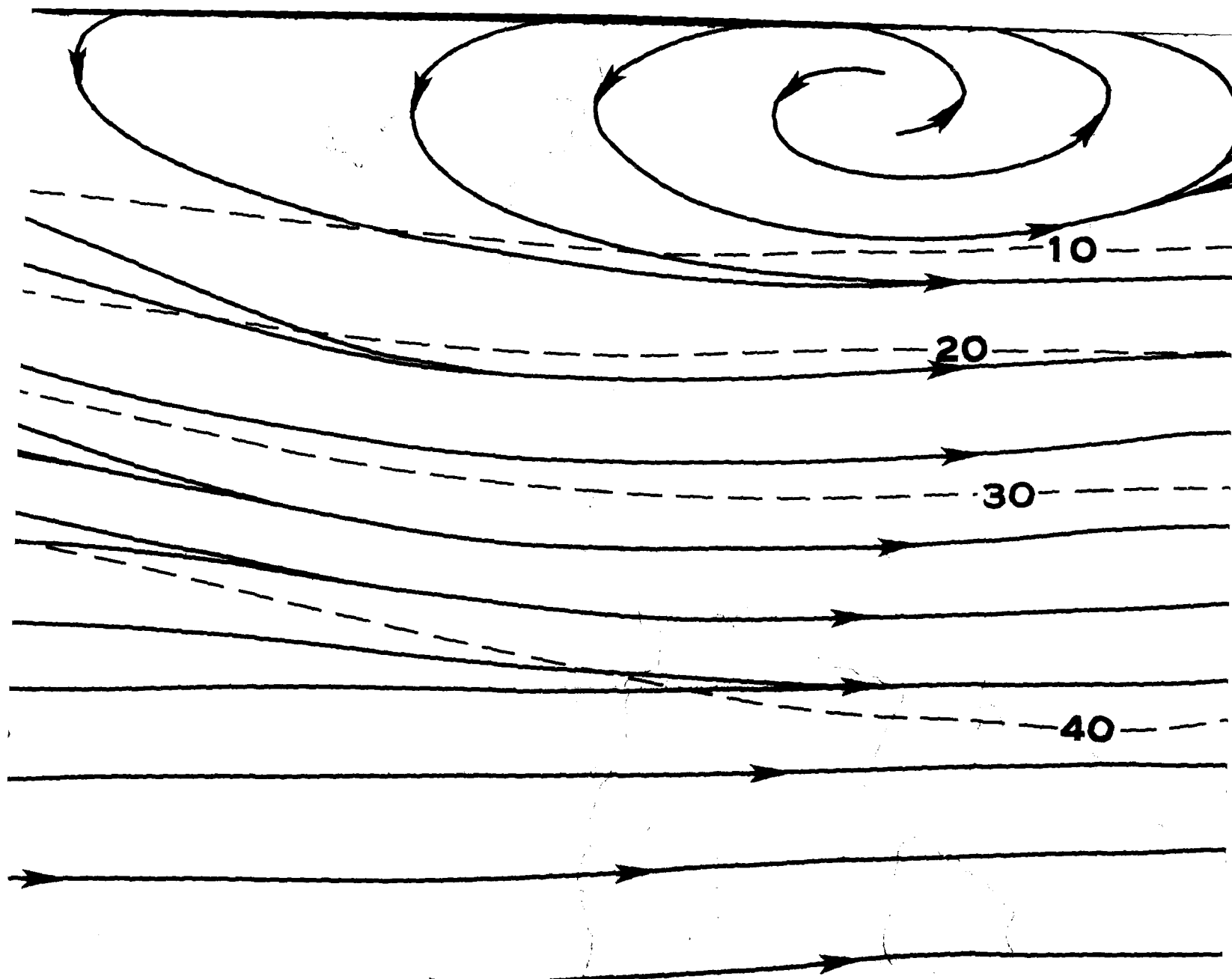


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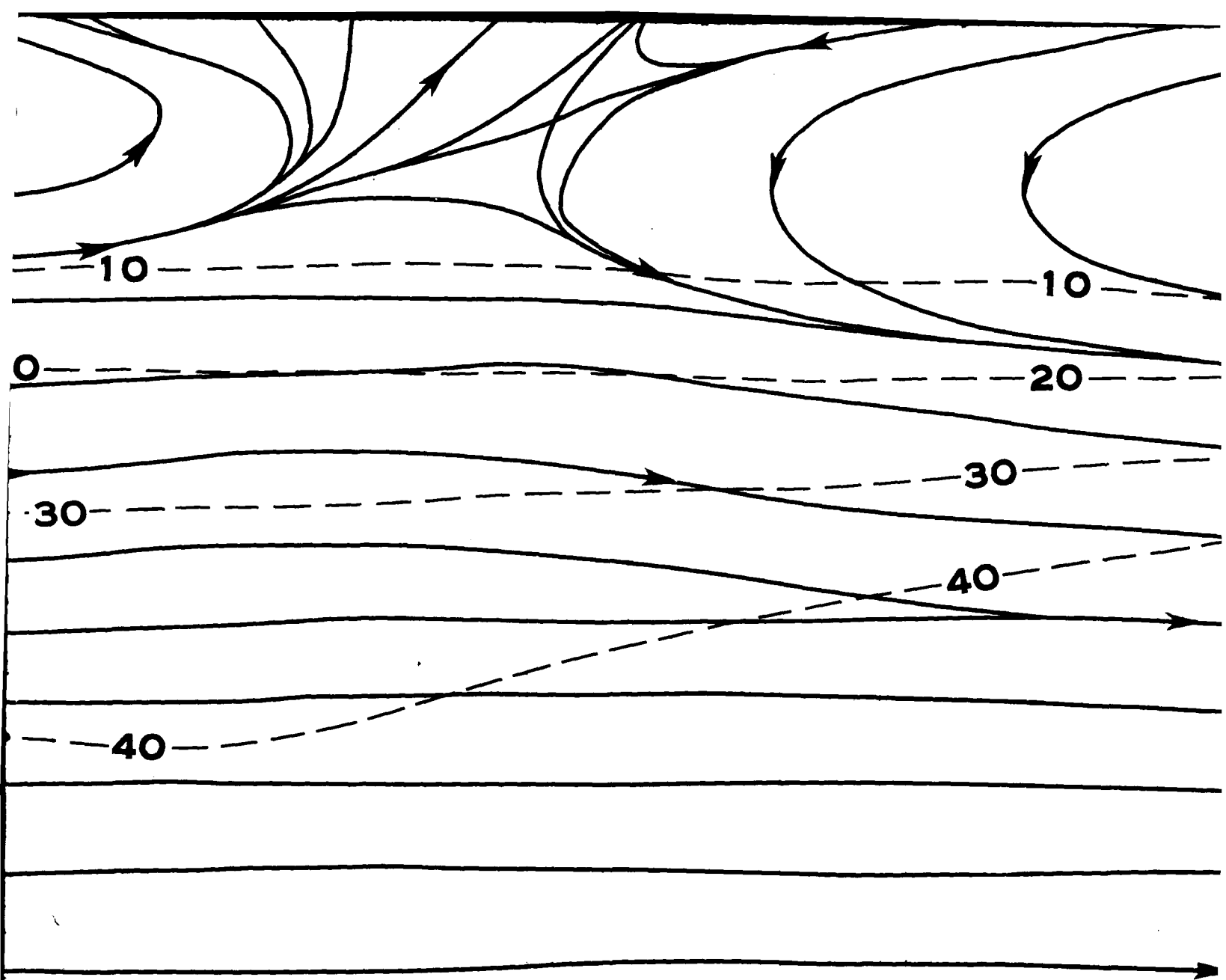




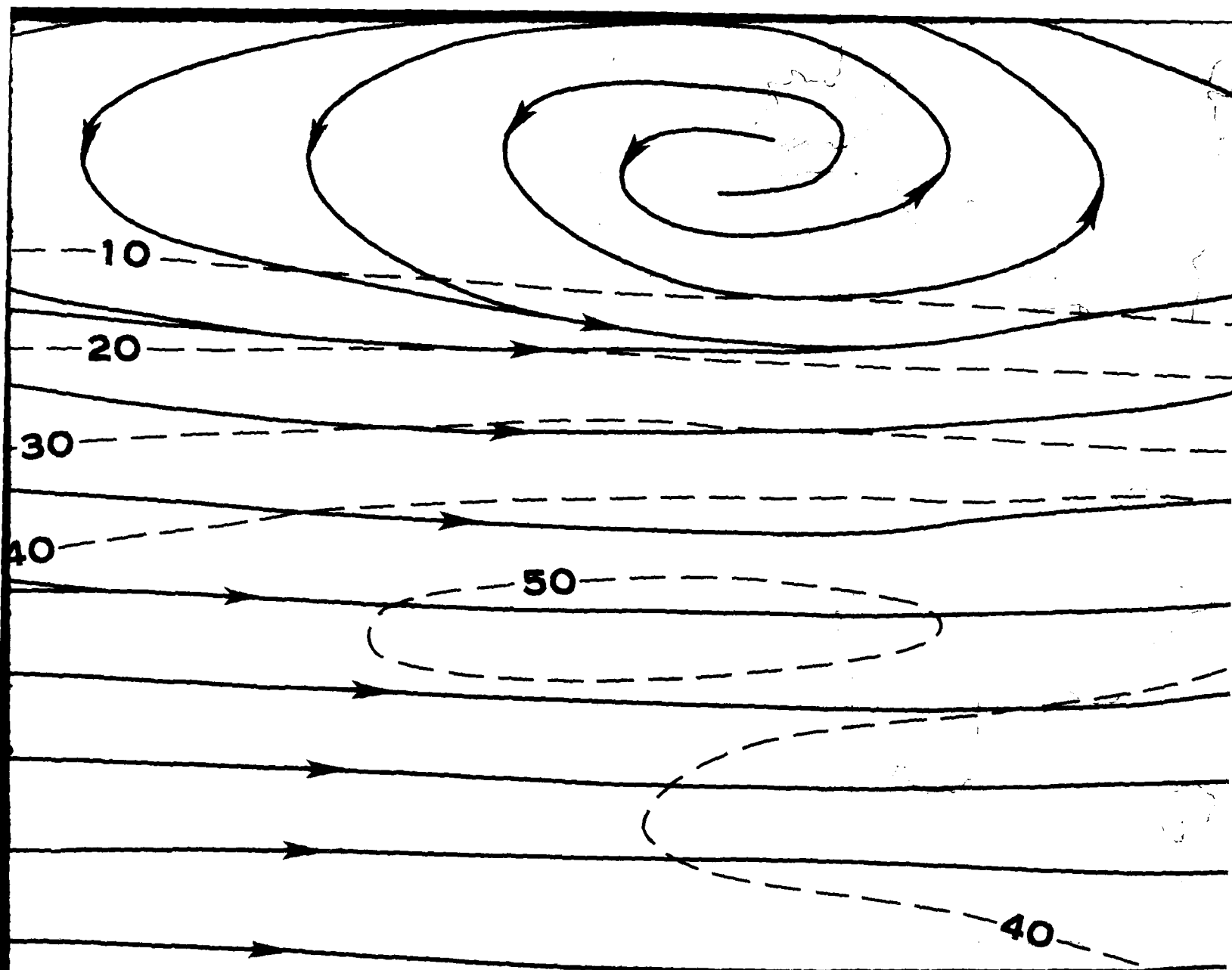
6



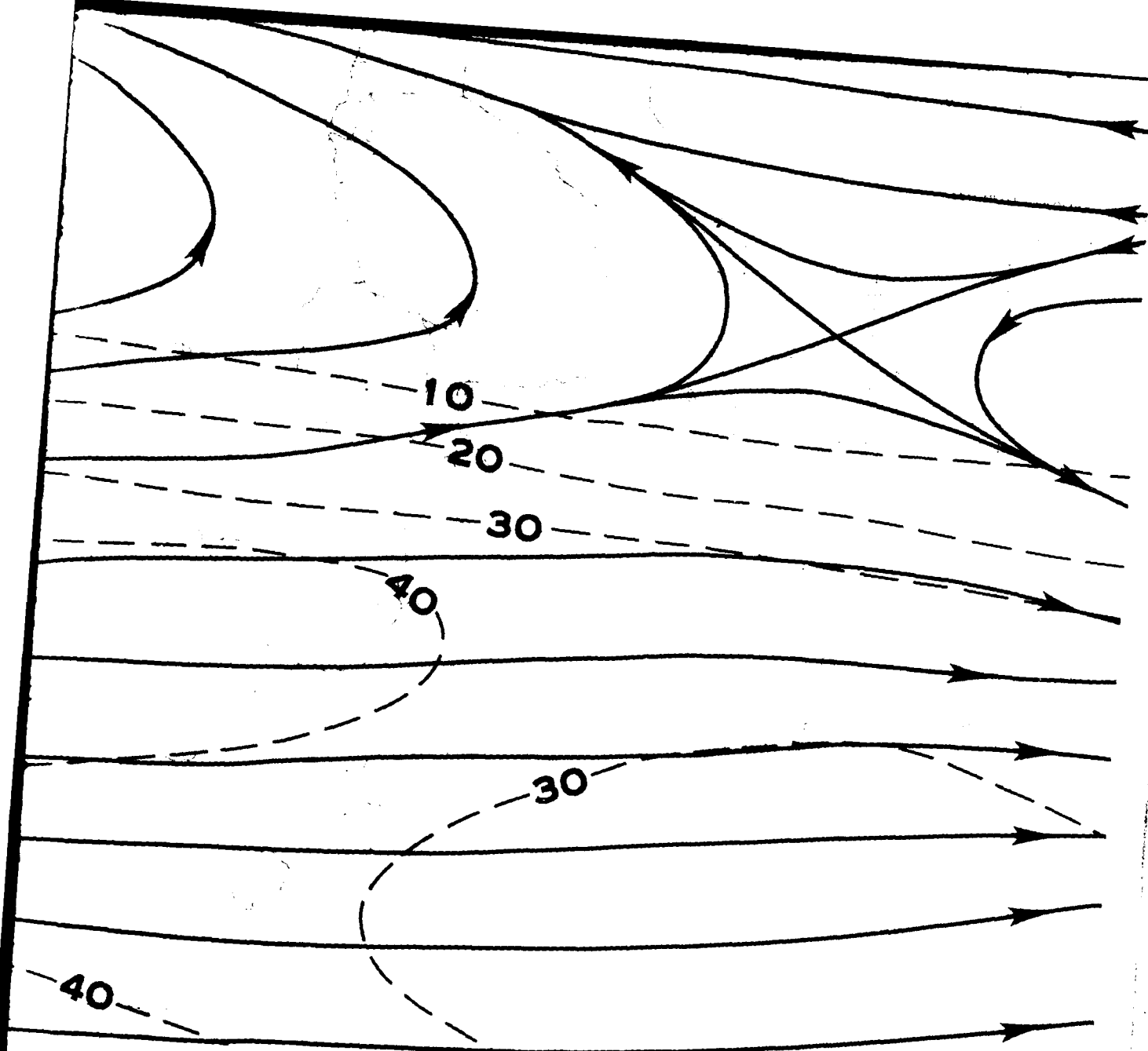
(5)



8



9



(10)

MULW-305W

AD-A141 484

MEAN UPPER TROPOSPHERIC FLOW OVER THE GLOBAL TROPICS  
VOLUME 2(U) AIR WEATHER SERVICE SCOTT AFB IL  
J C SADLER ET AL. JAN 84 AWS/TR-83/002-VOL-2

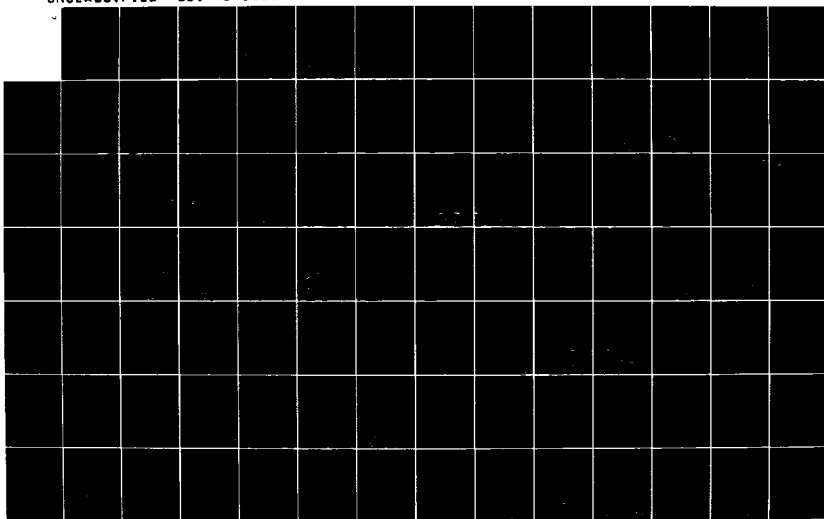
2/6

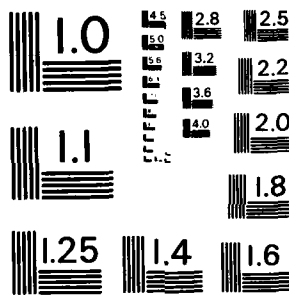
UNCLASSIFIED

SBI-AD-E850 890

F/O 4/2

NL

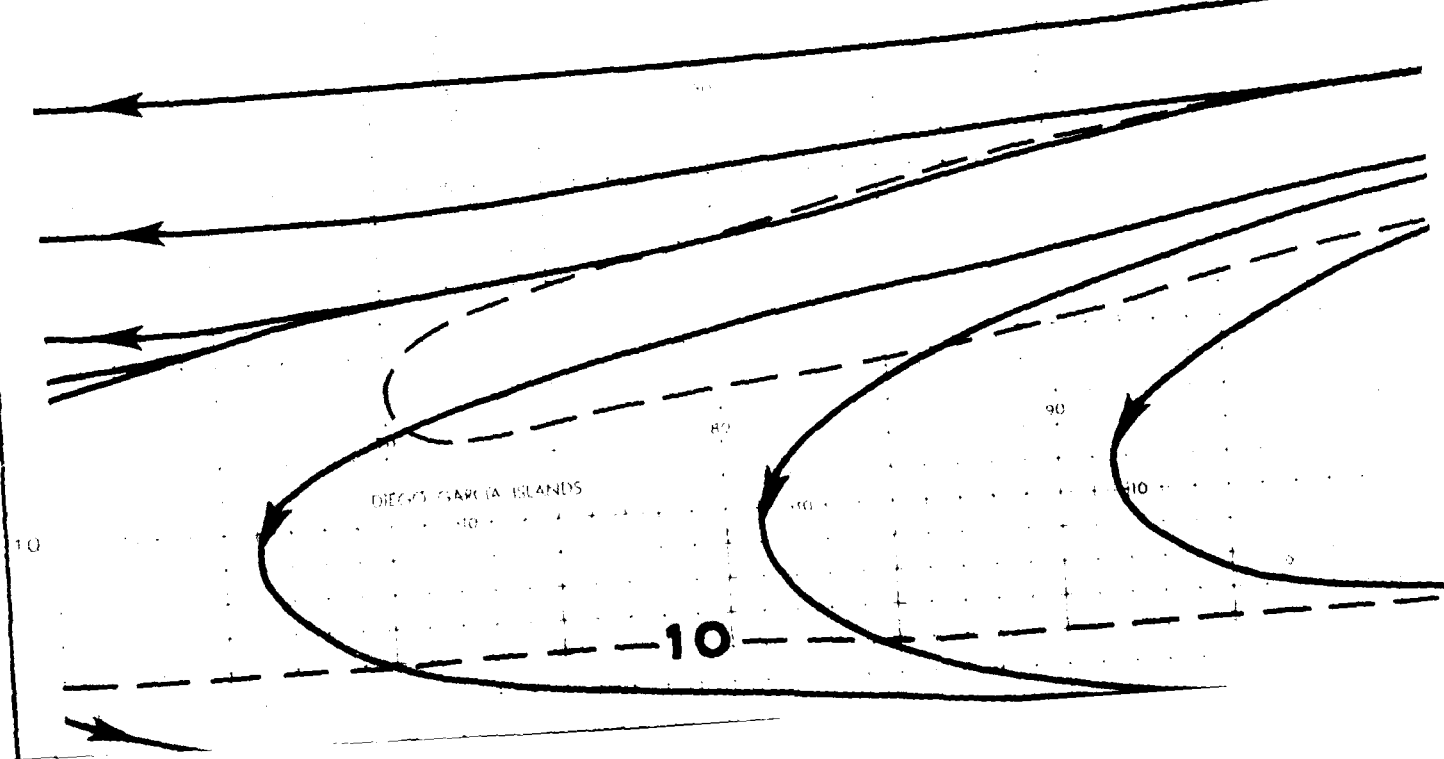
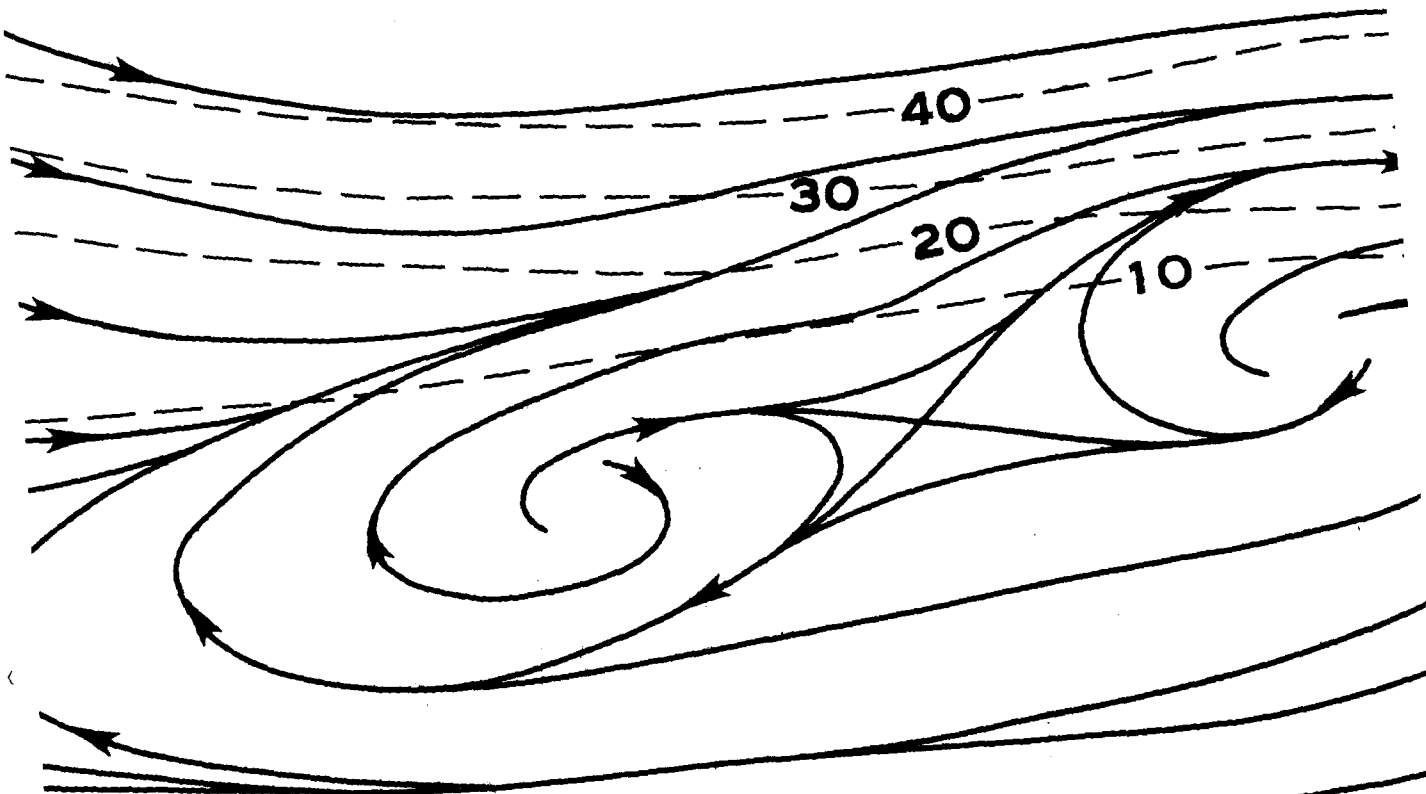
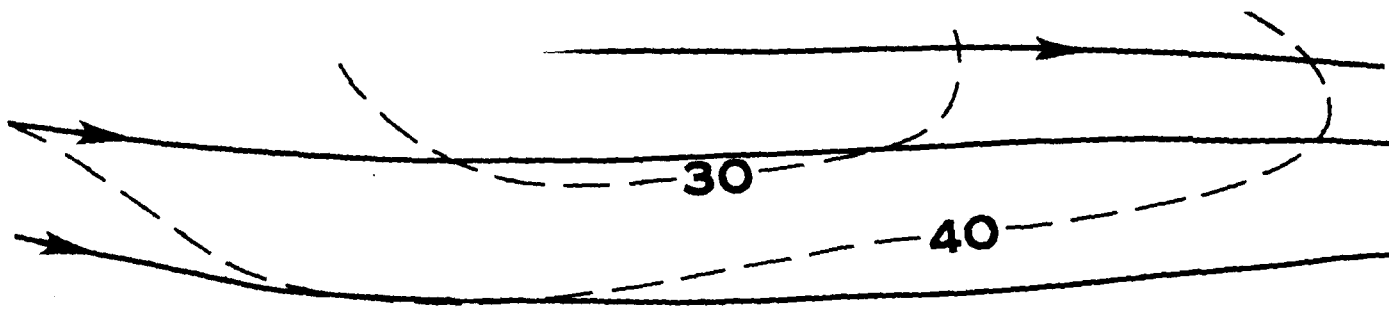




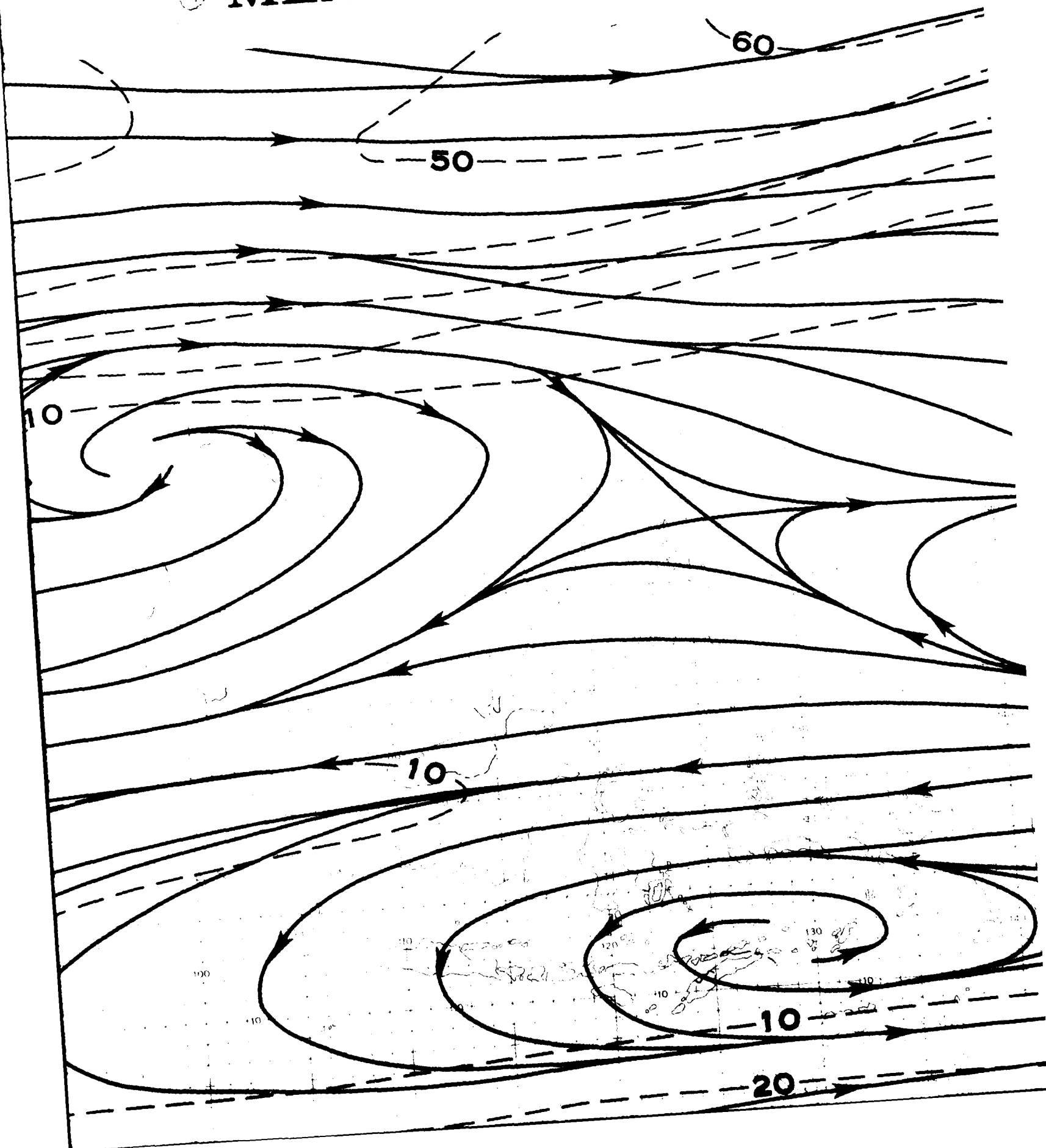
MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS - 1963-A



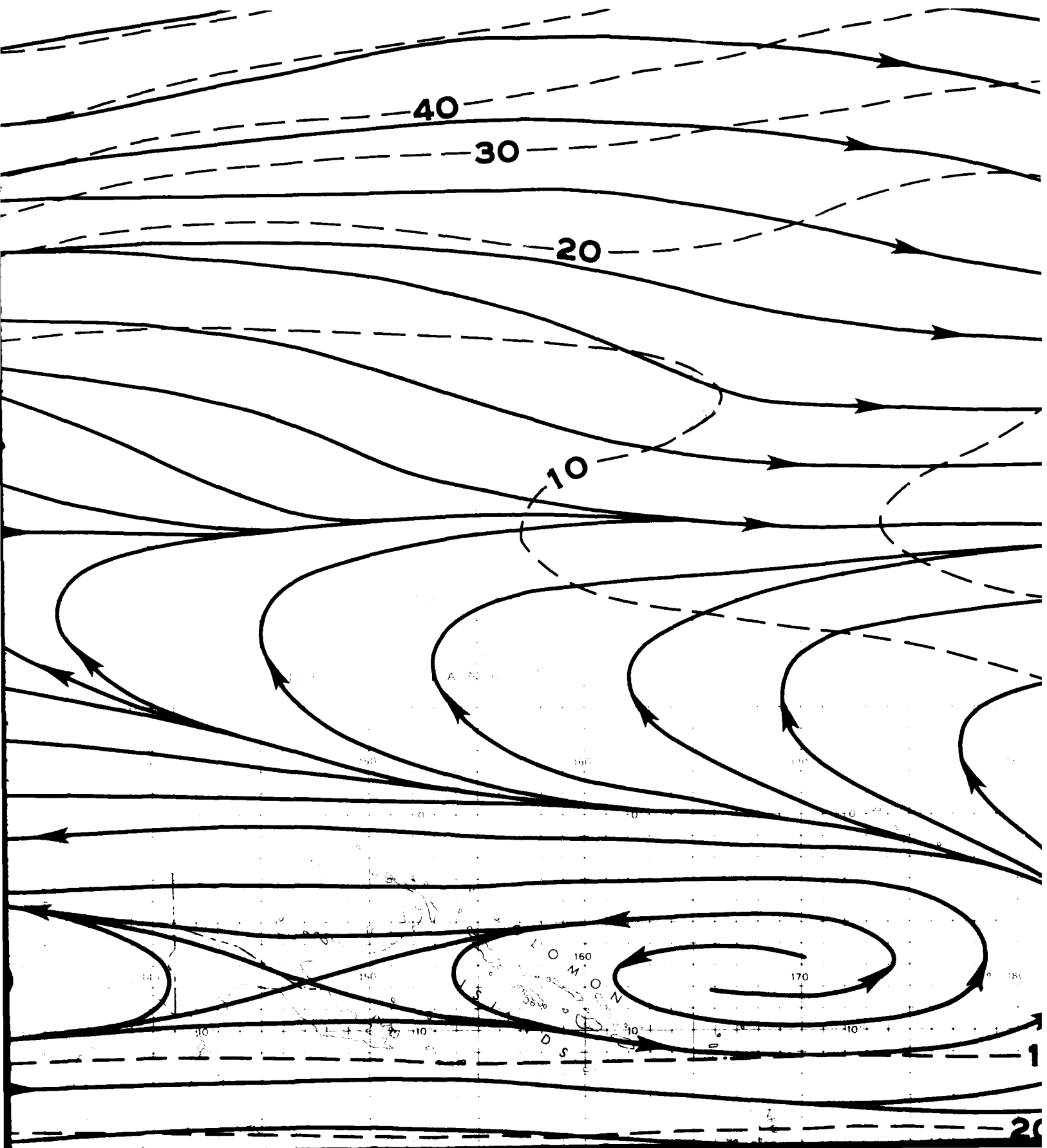
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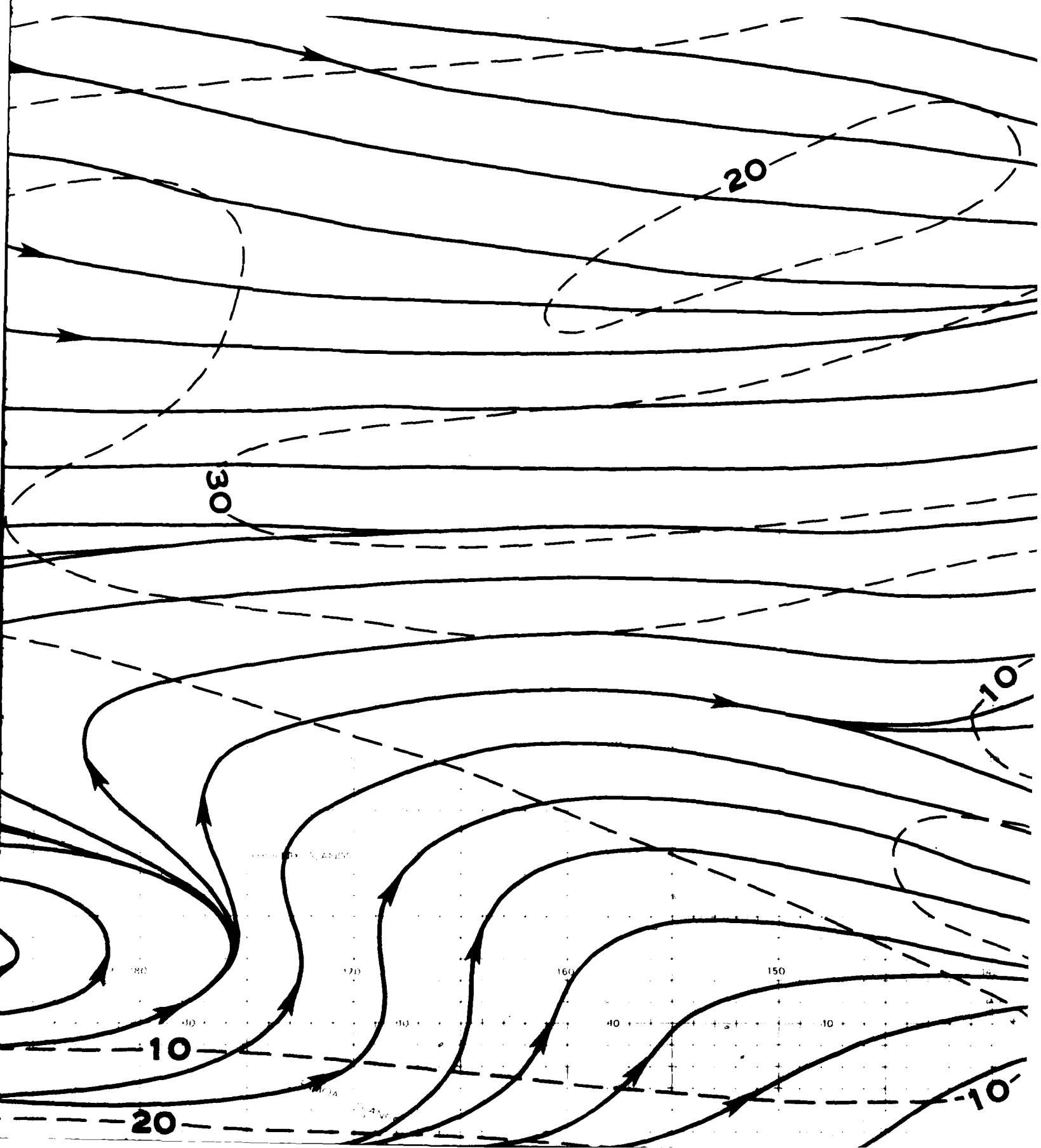
# MEAN UPPER LEVEL WIN

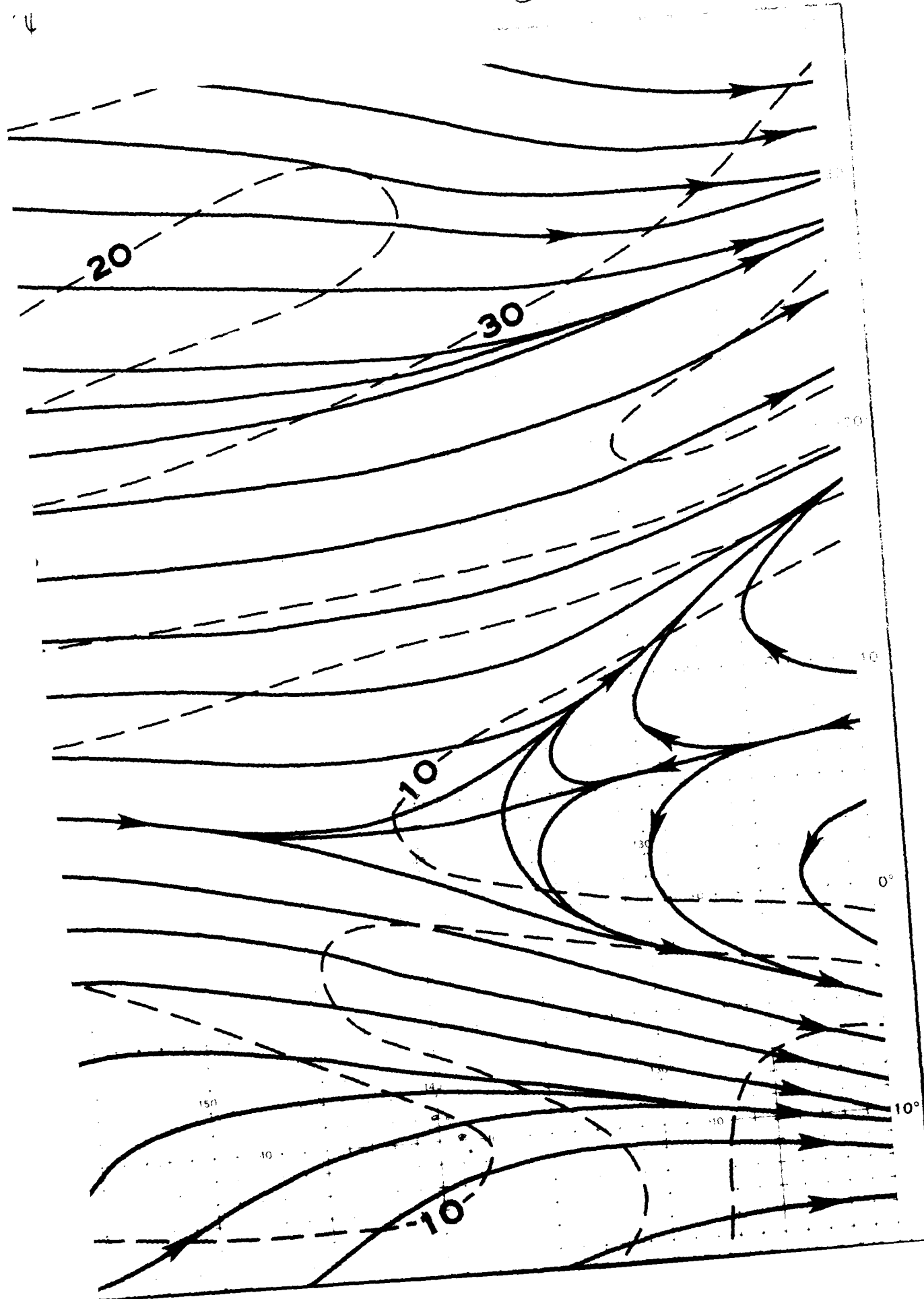


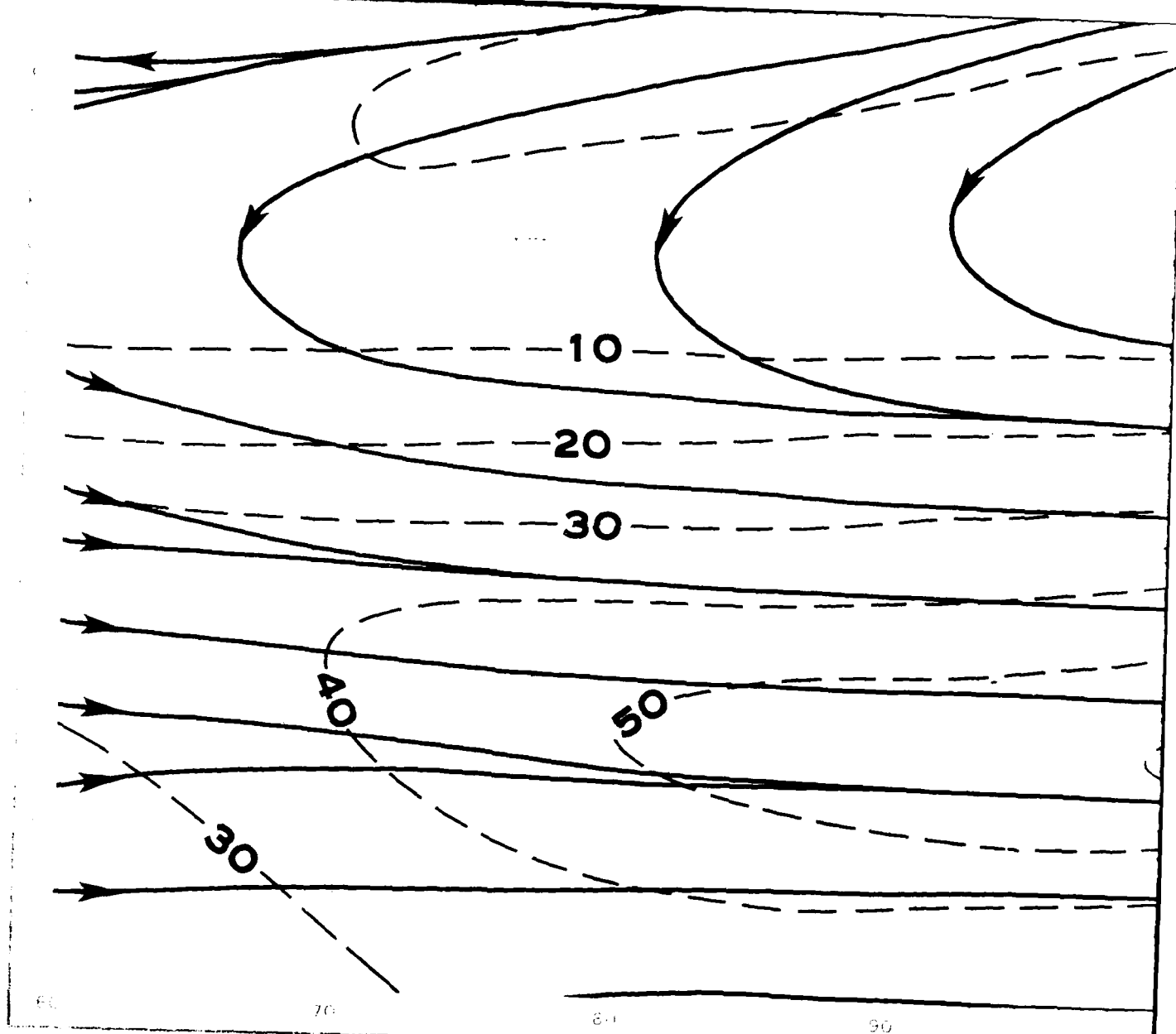
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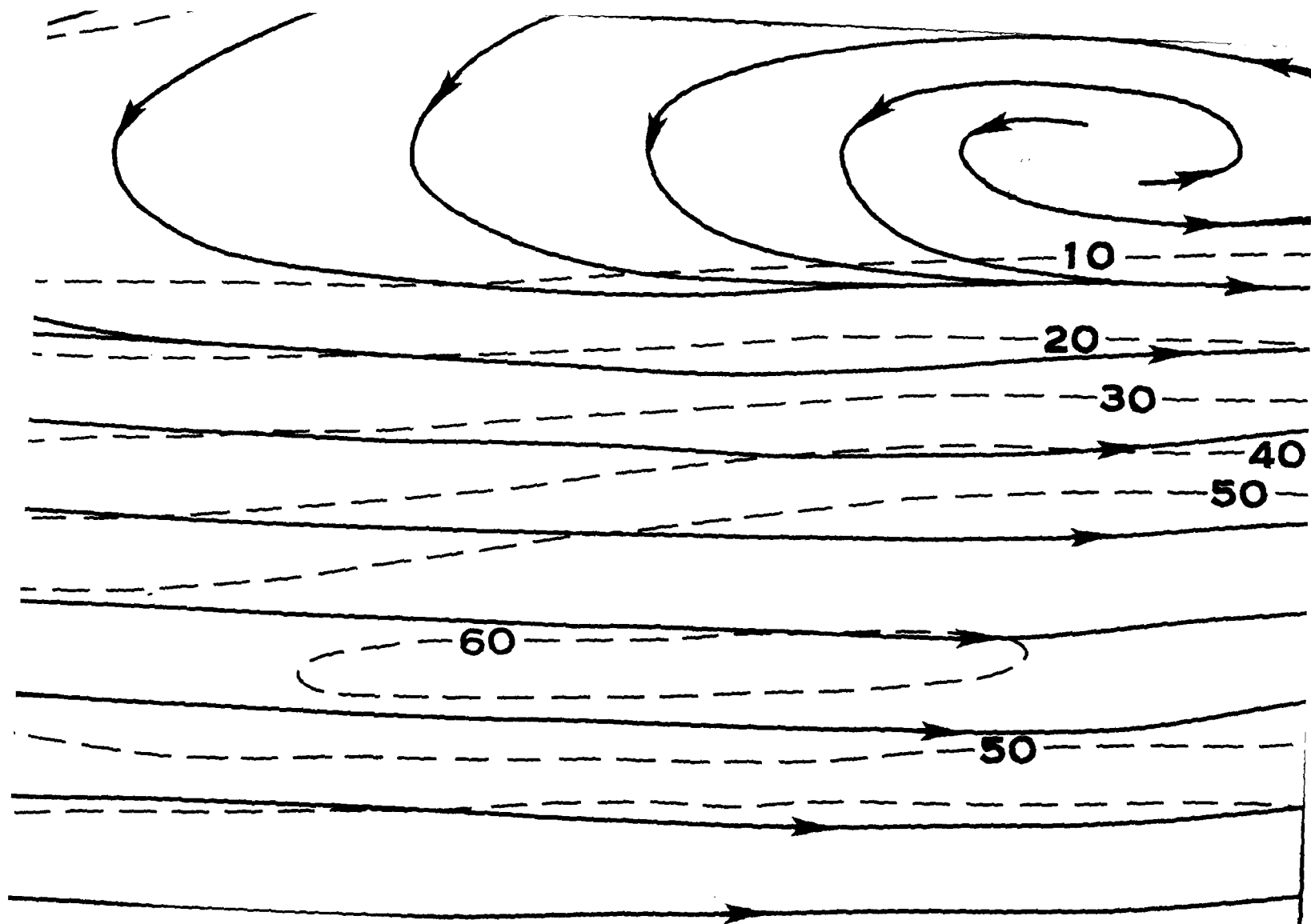
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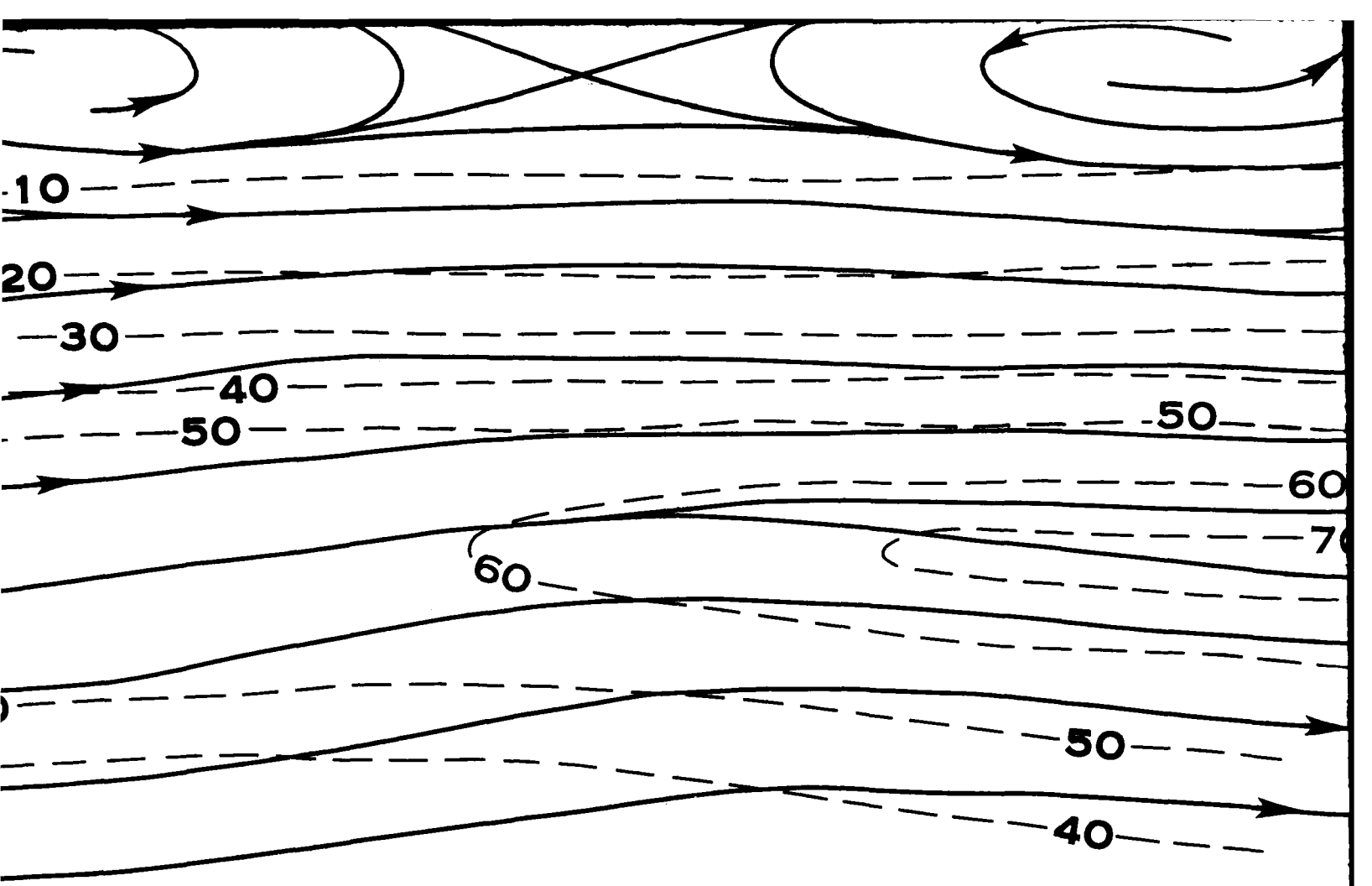




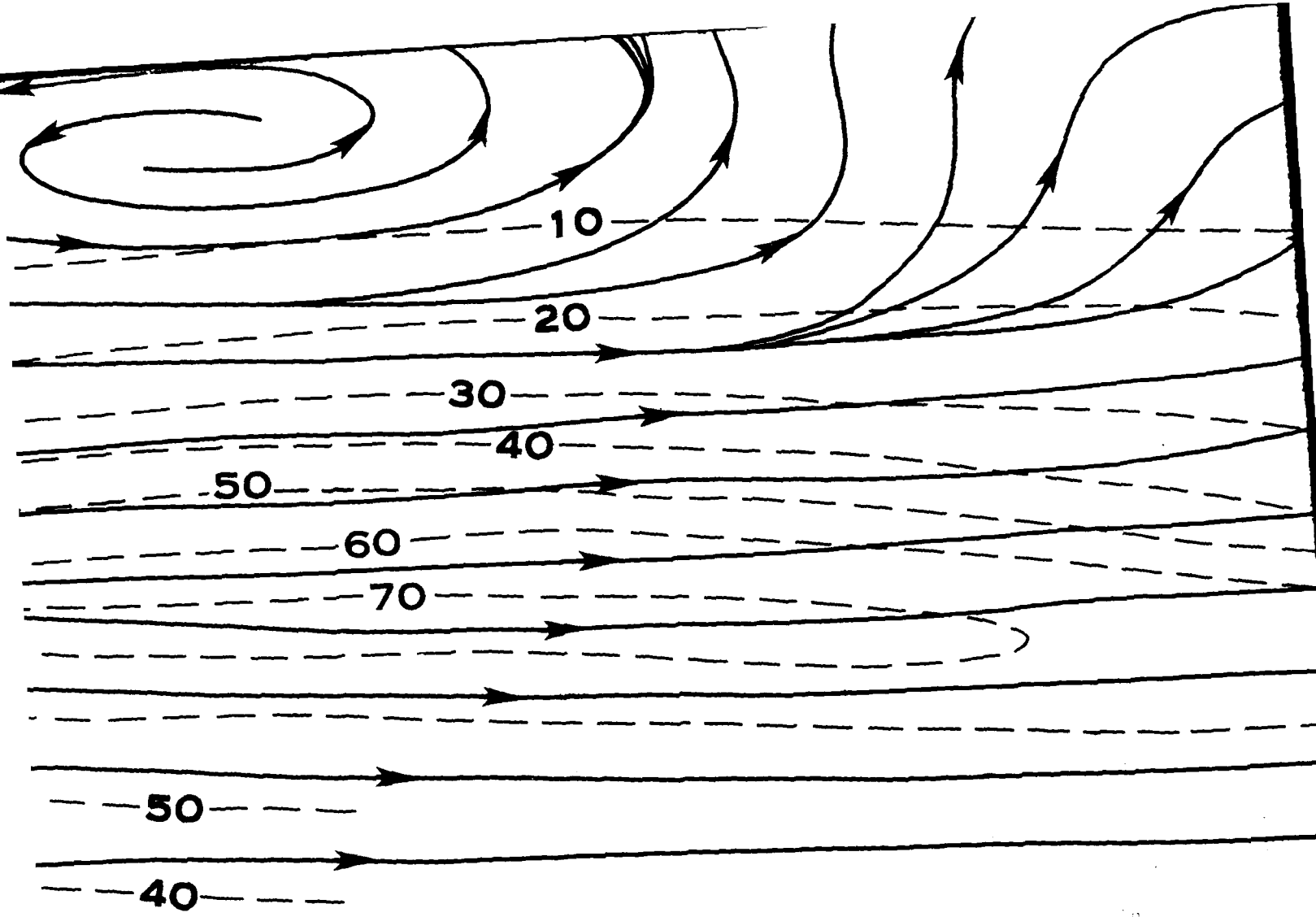
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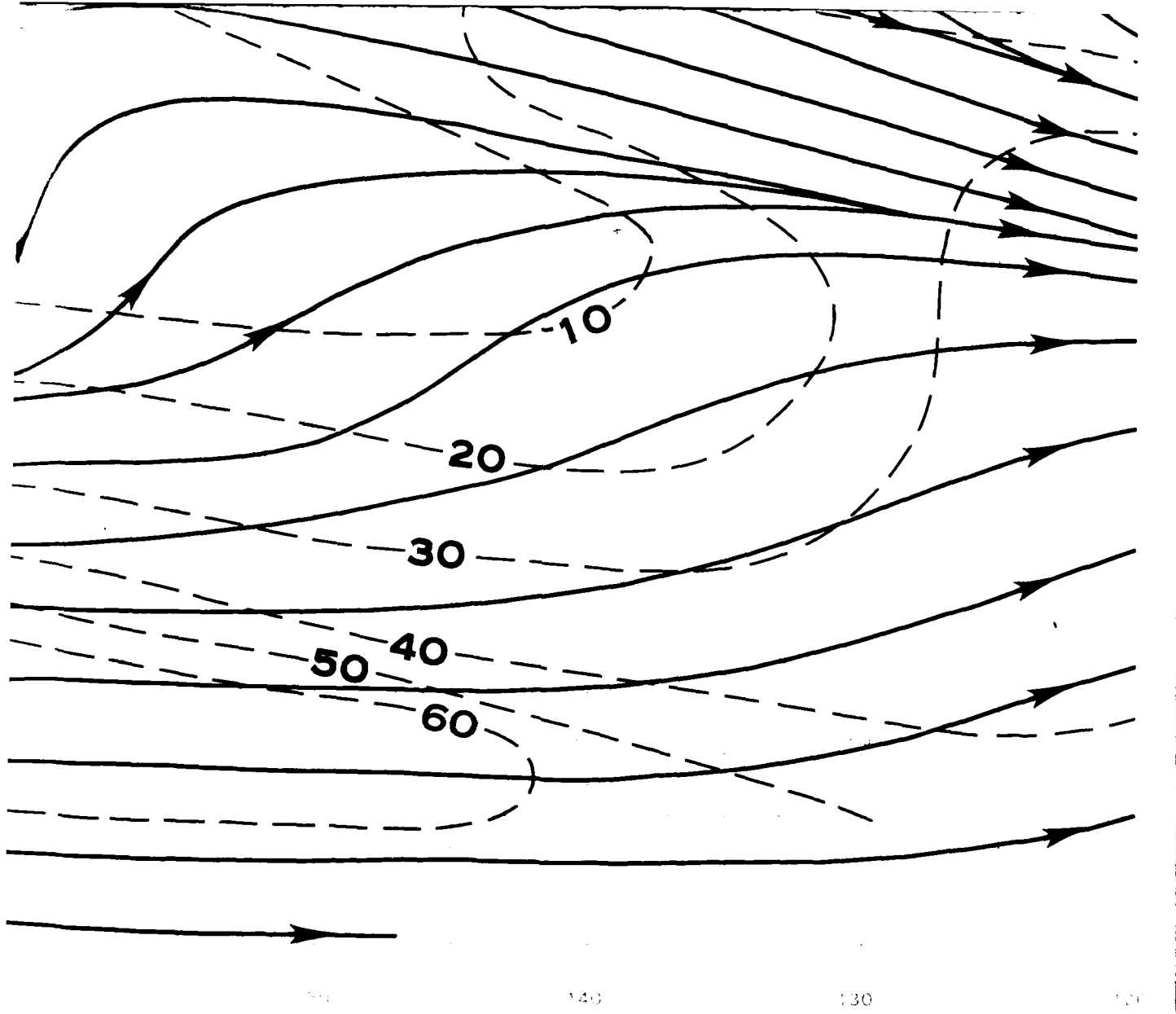
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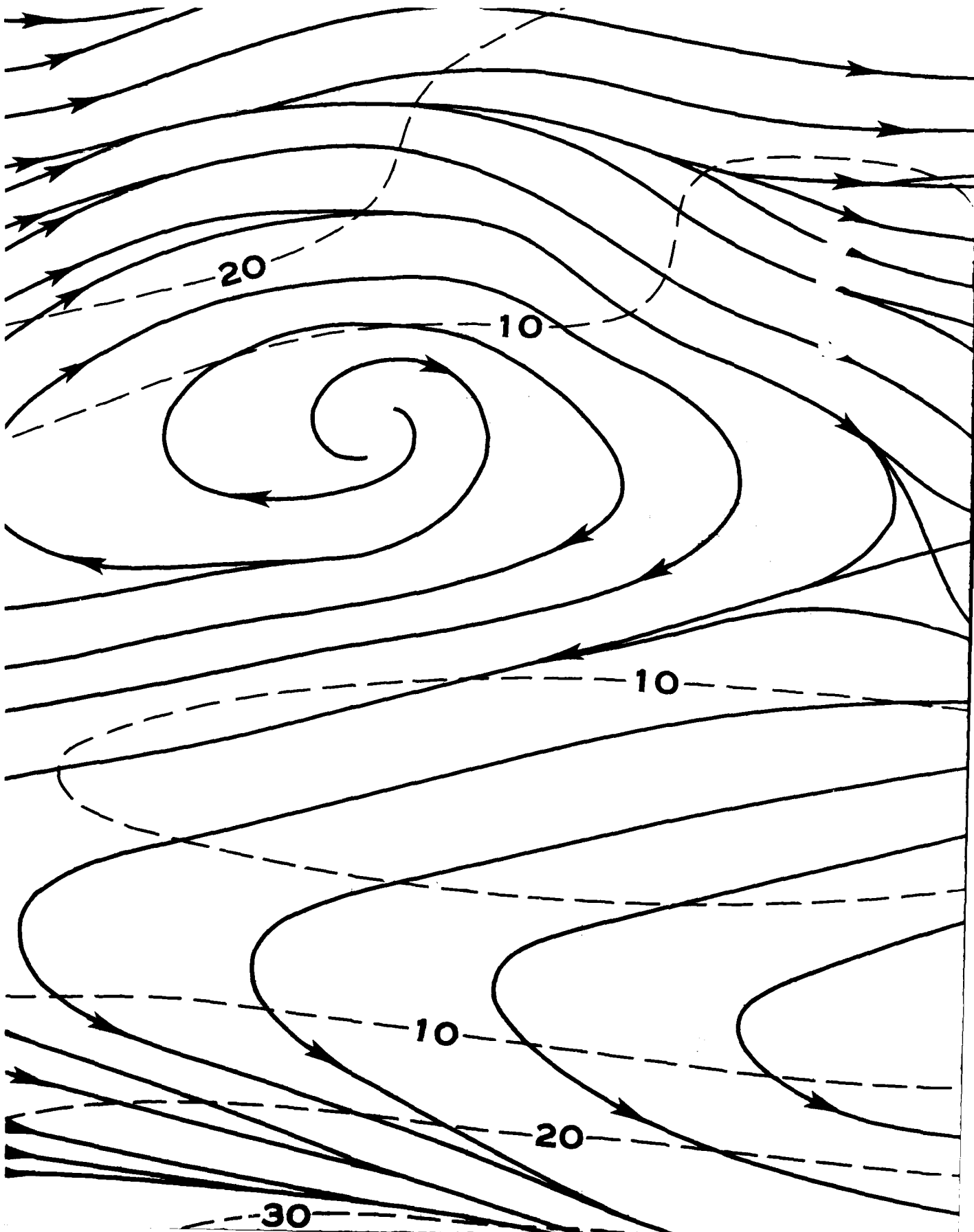




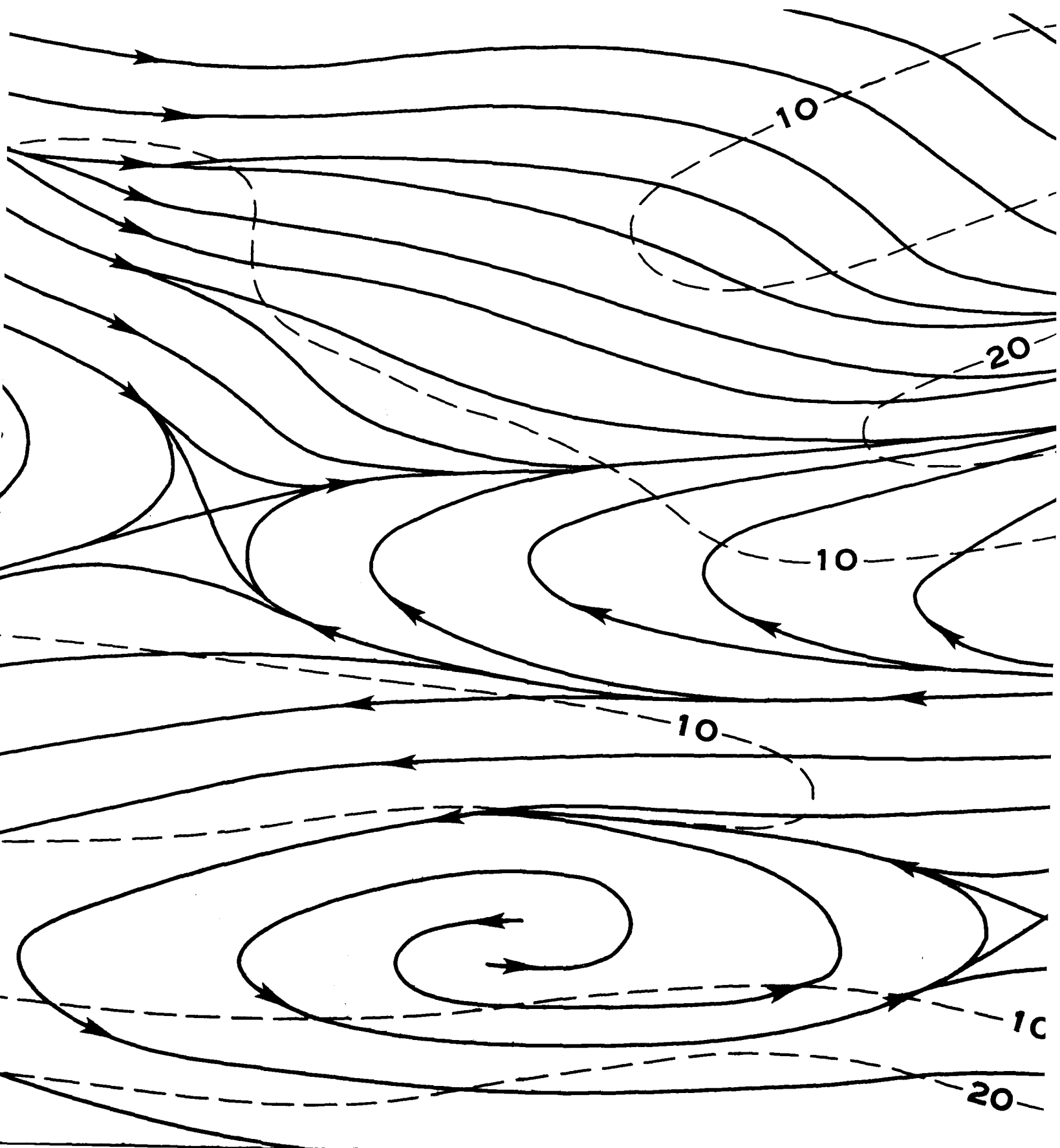
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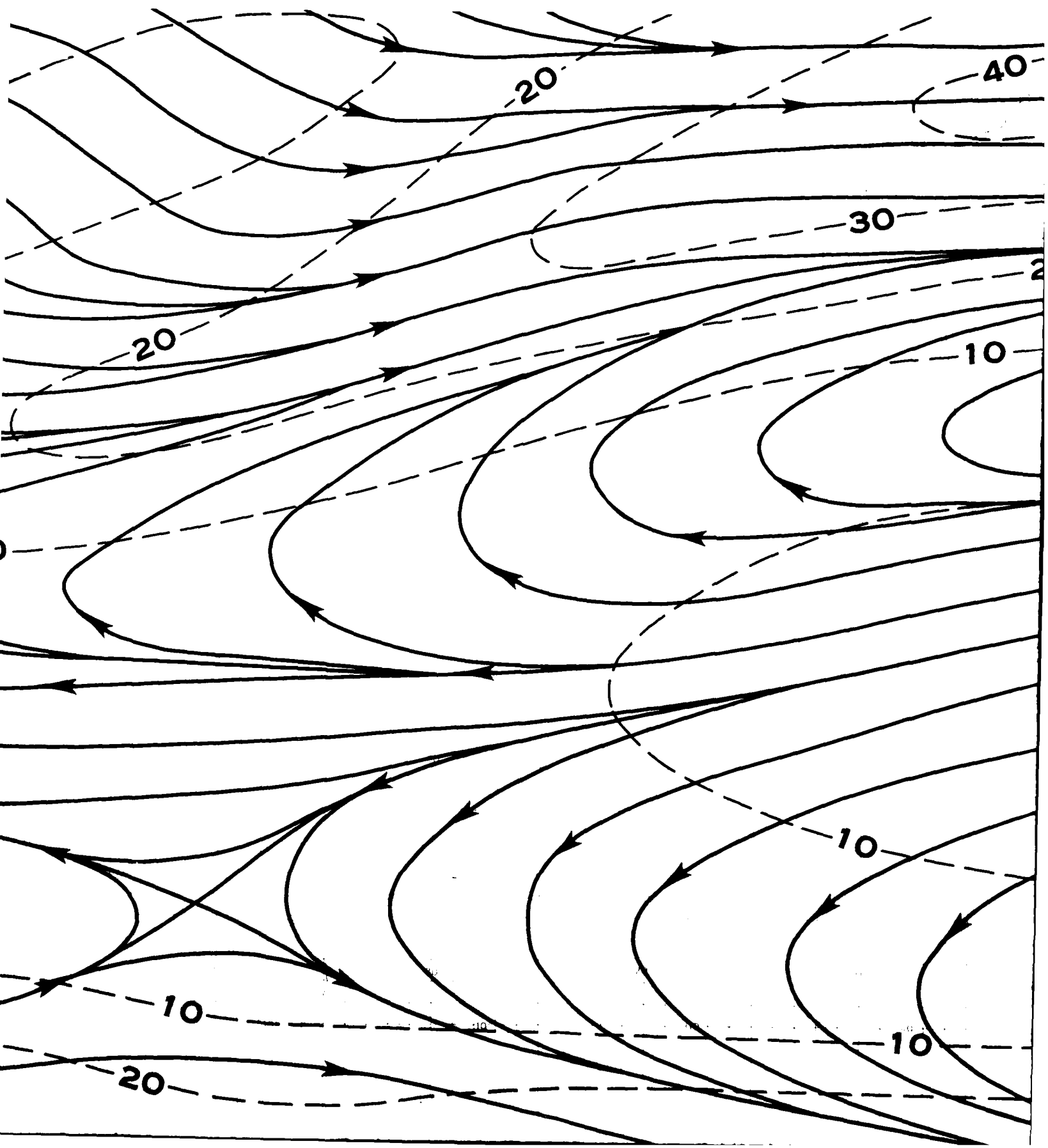
MULW-305E



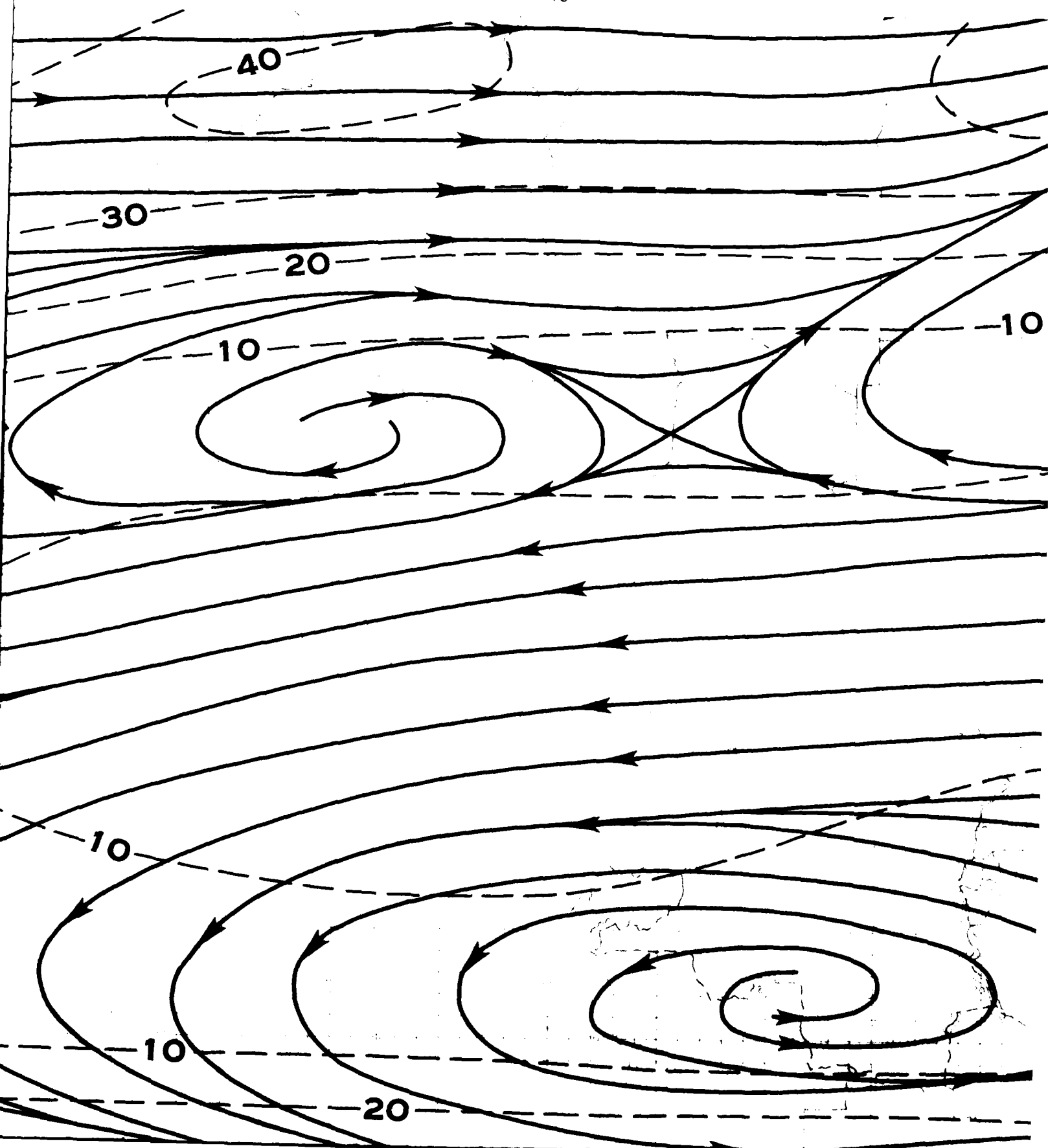
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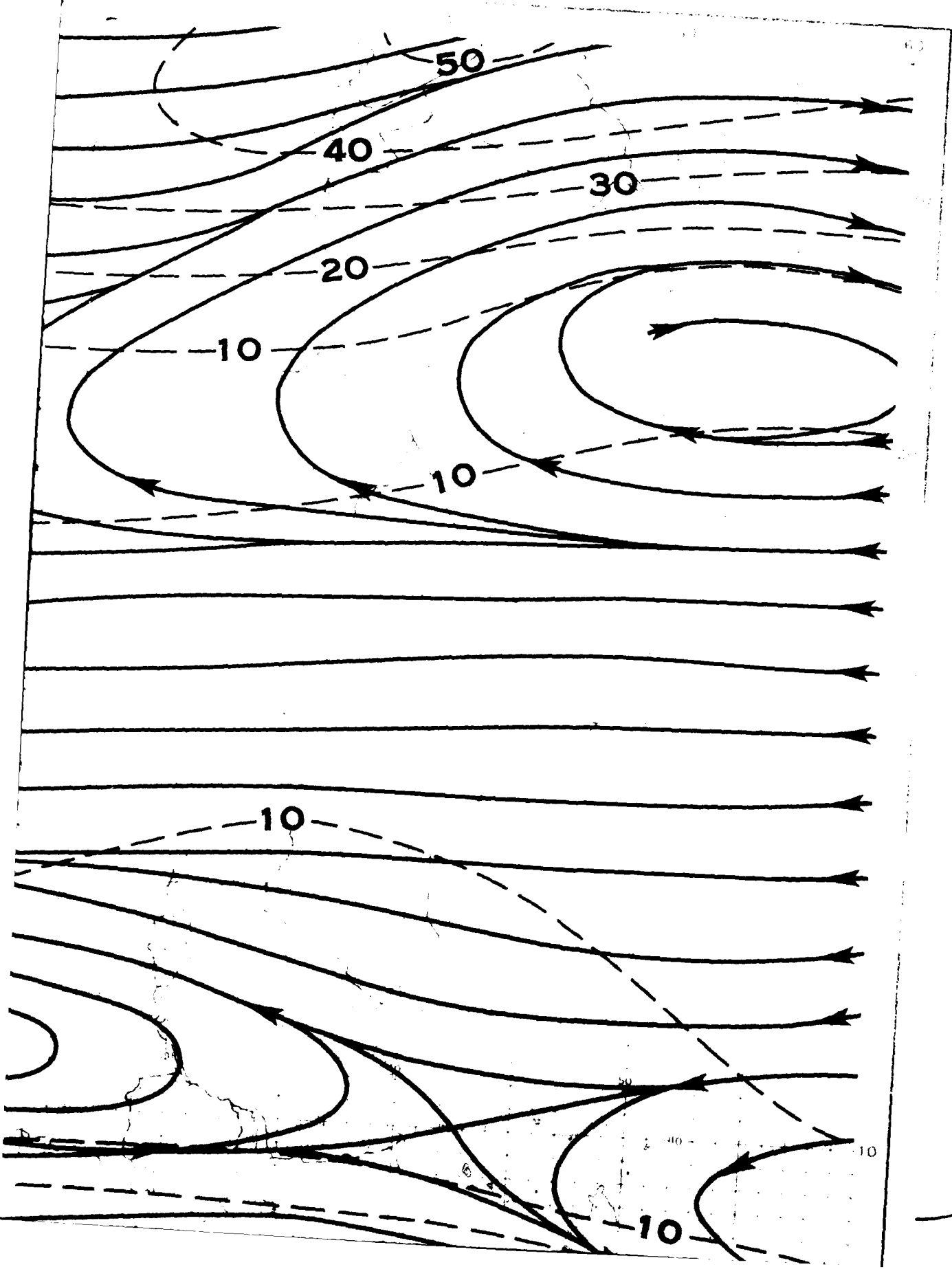


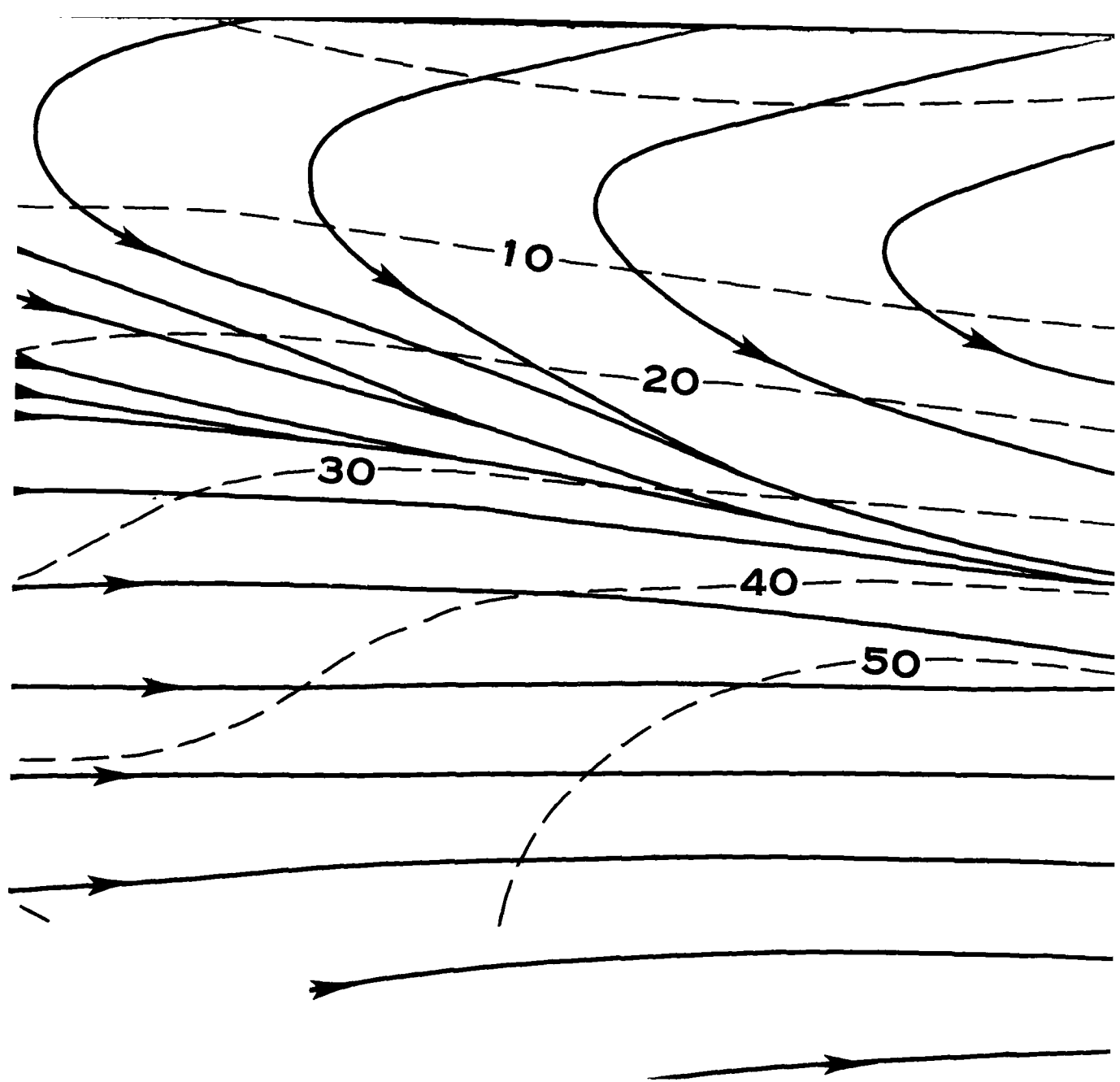
# EL WINDS over GLOBAL TROPICS



# TROPICS - JUNE 300mb

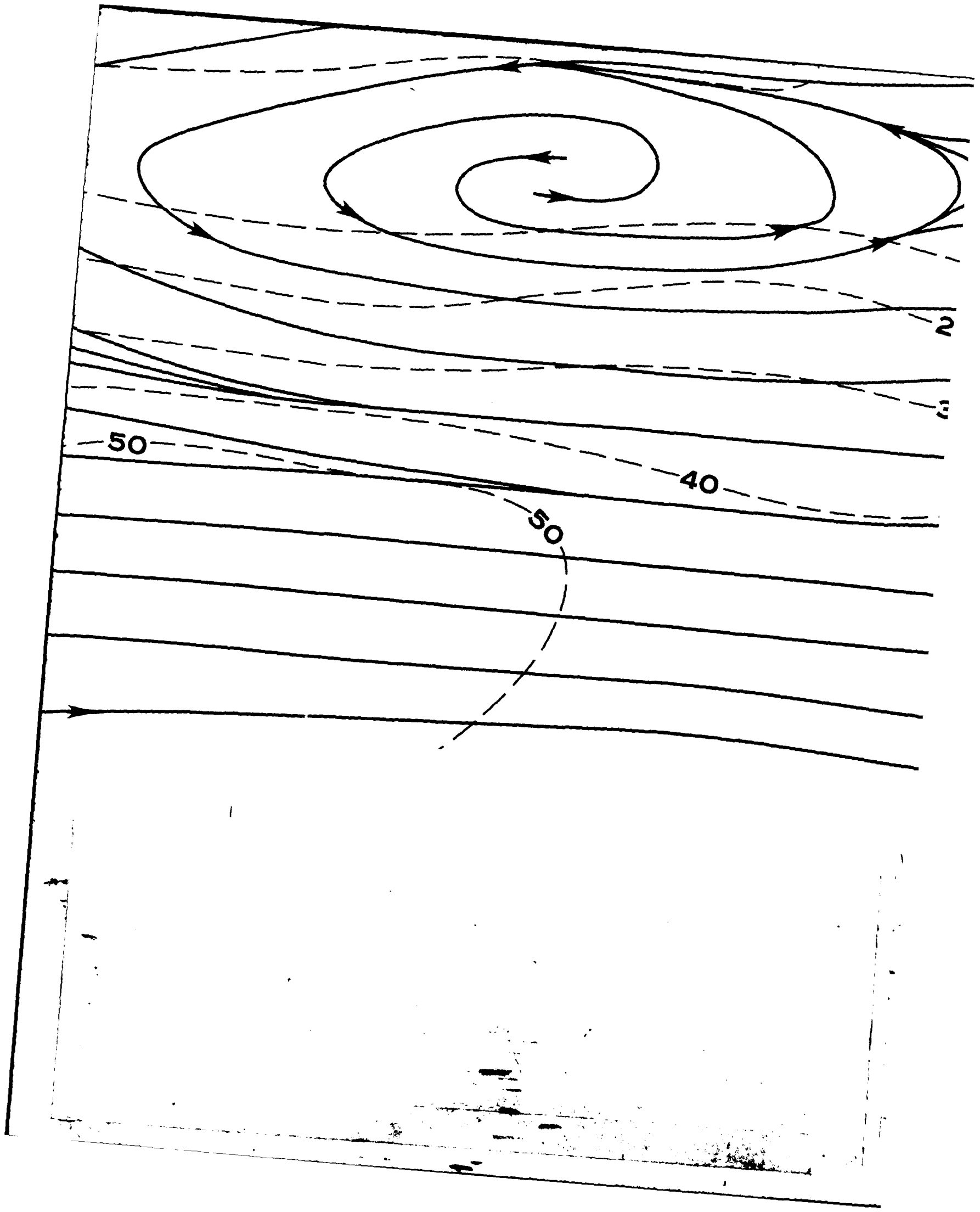


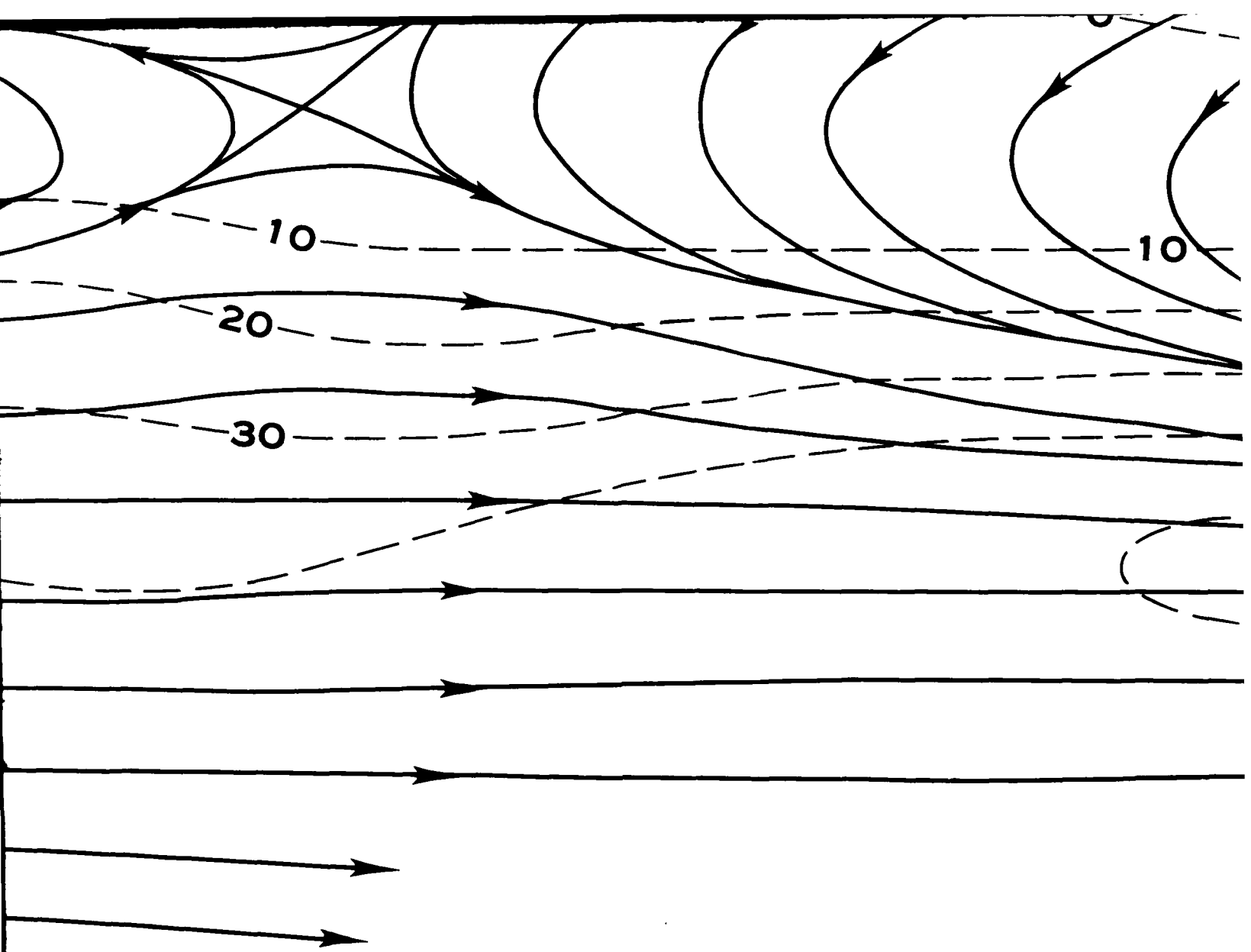




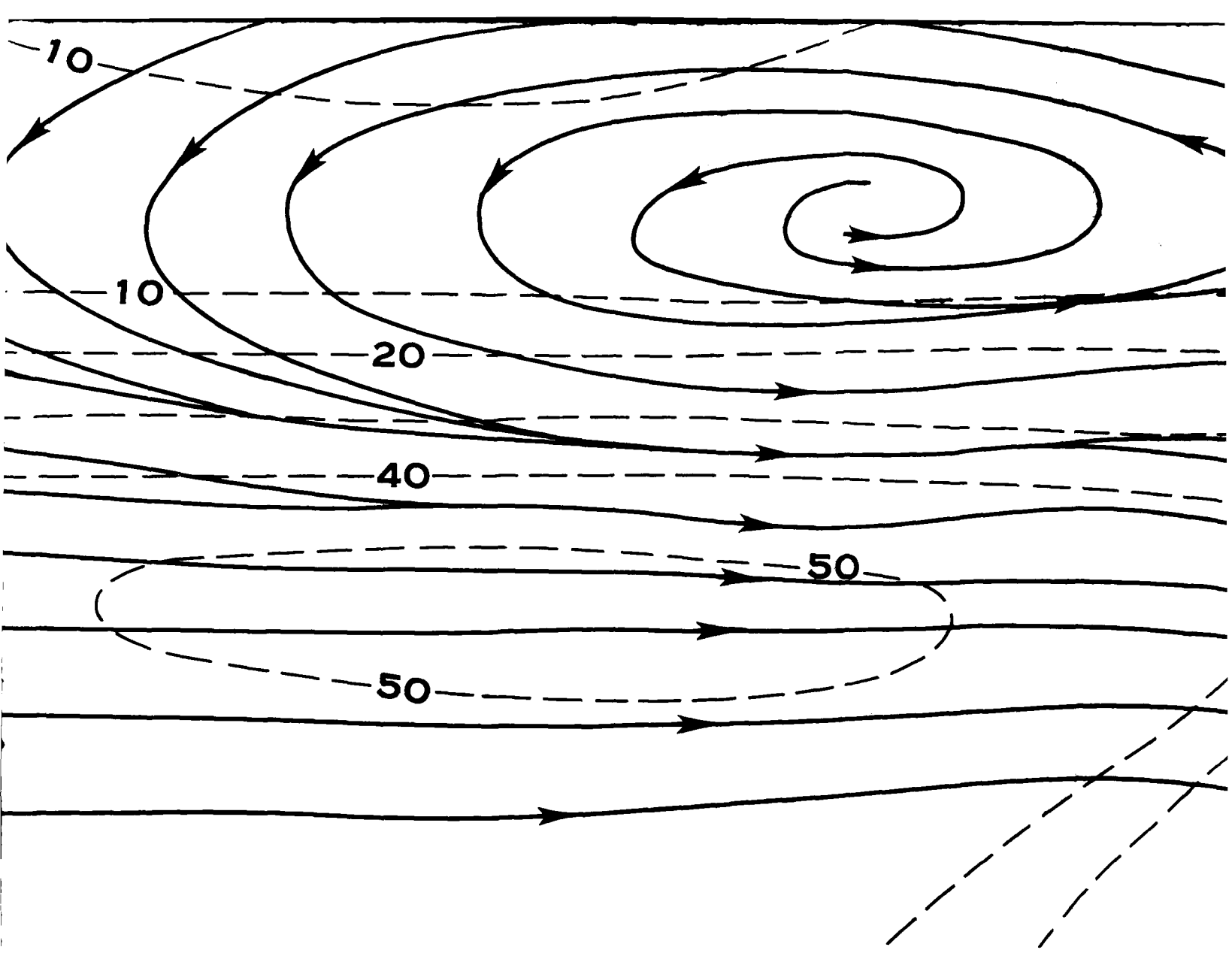
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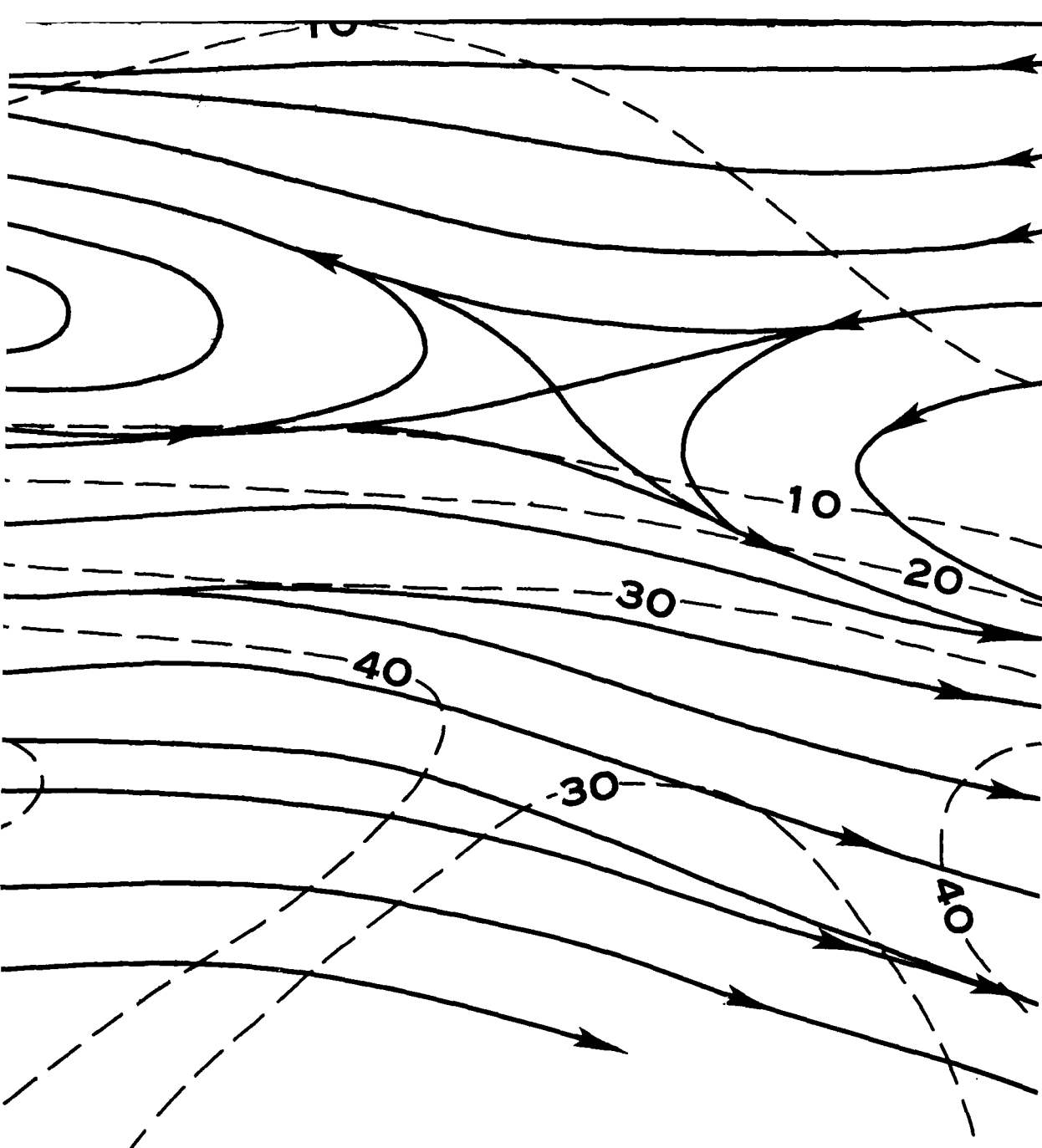




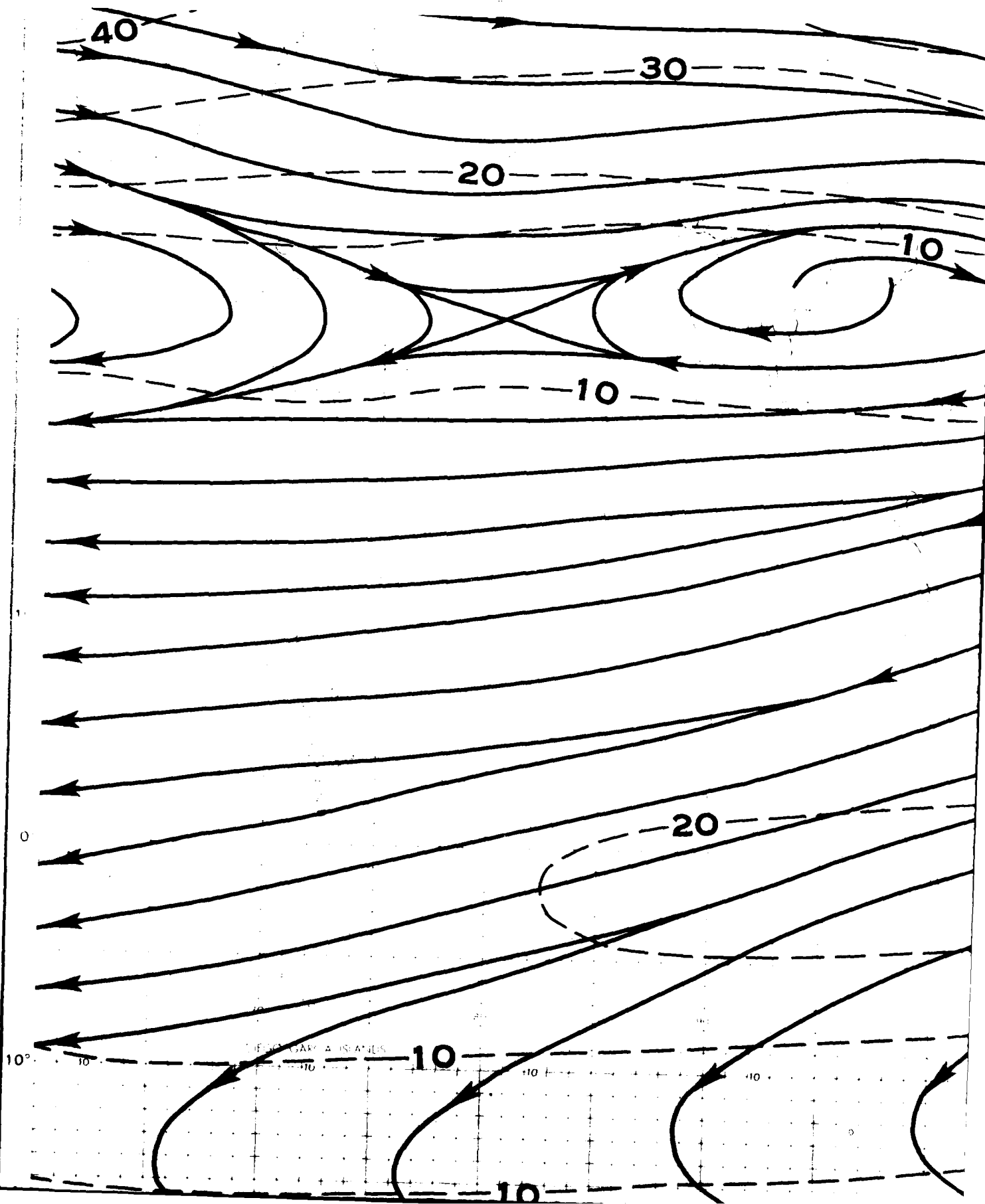
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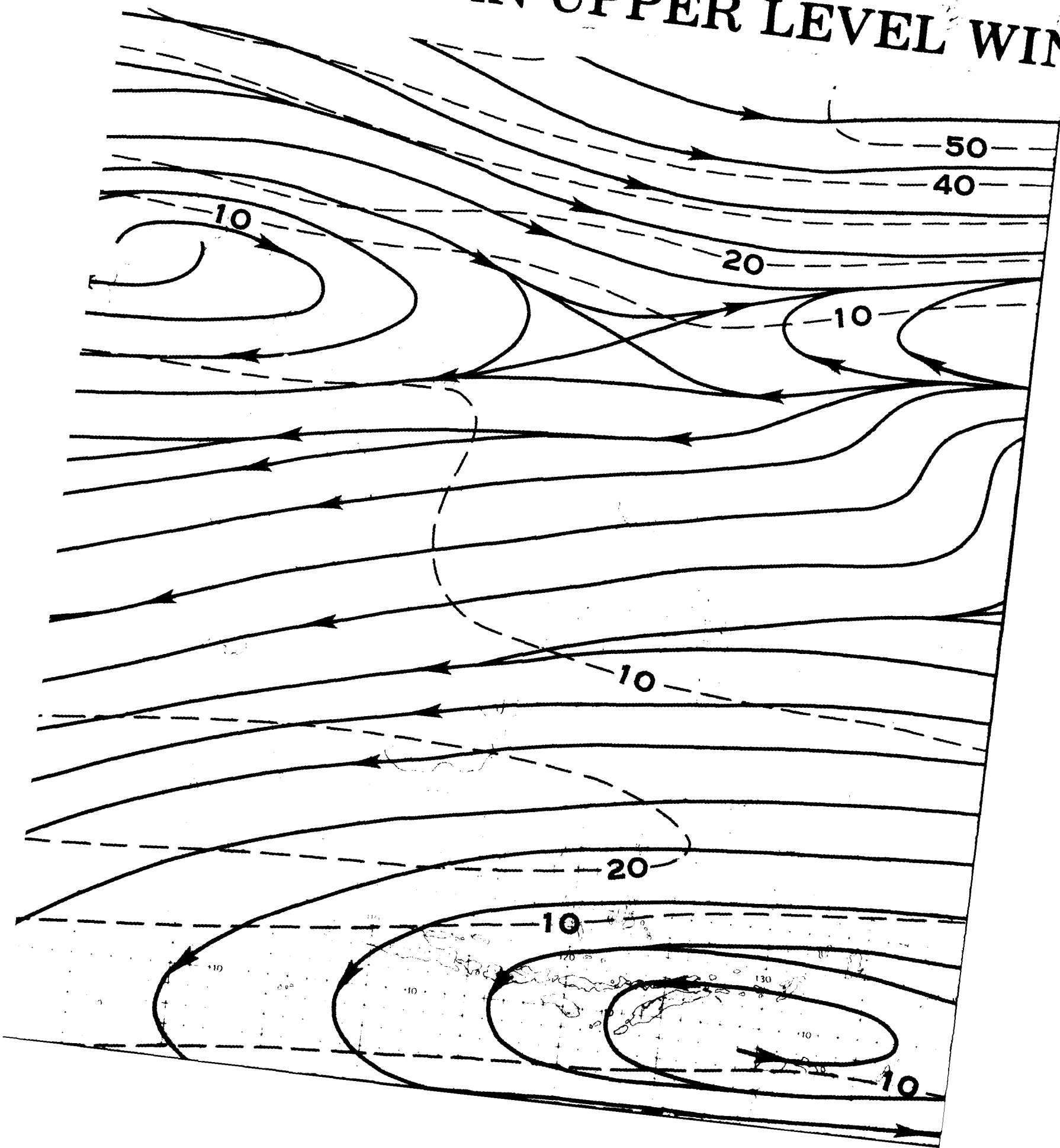
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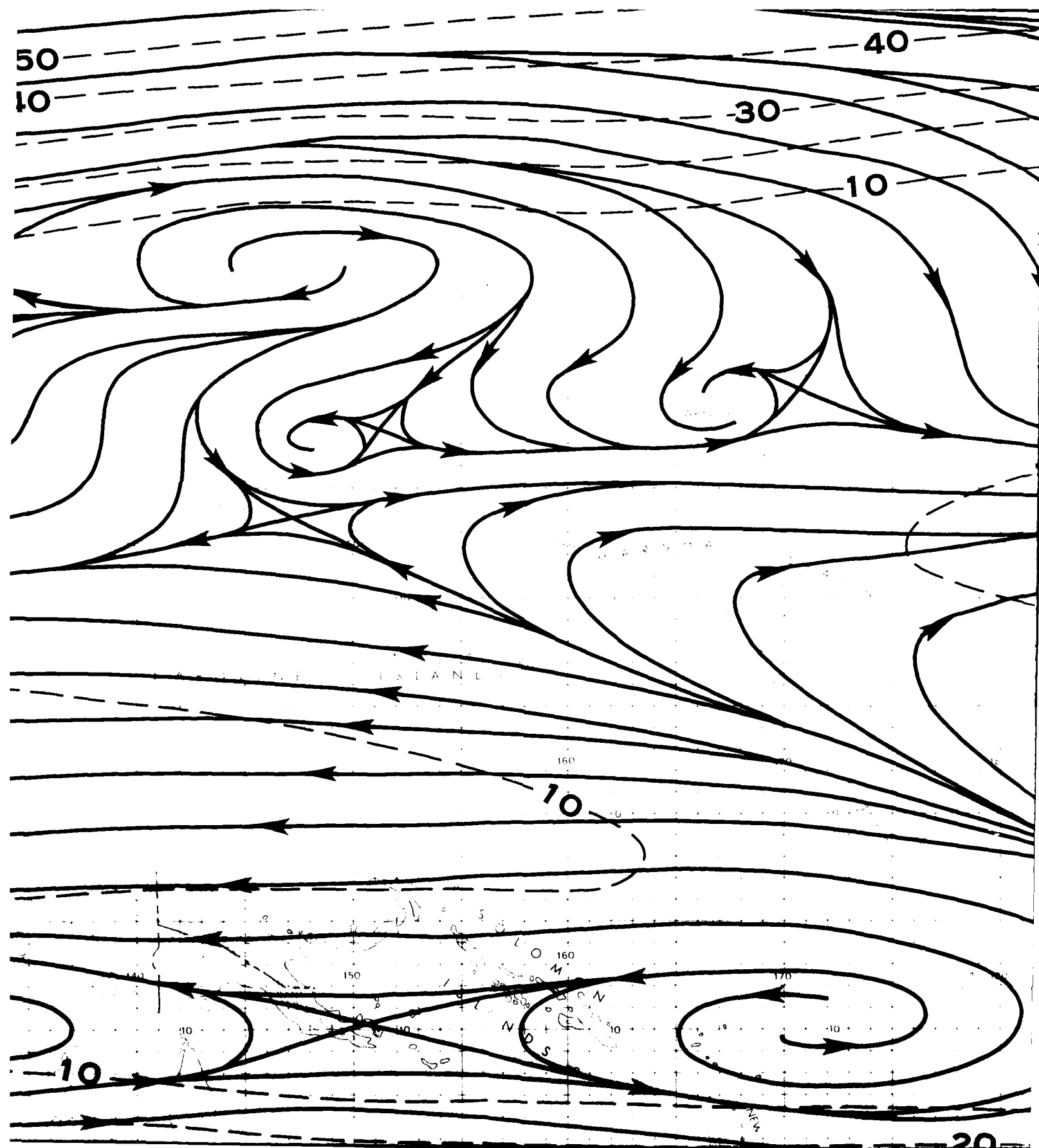
MULW-306W



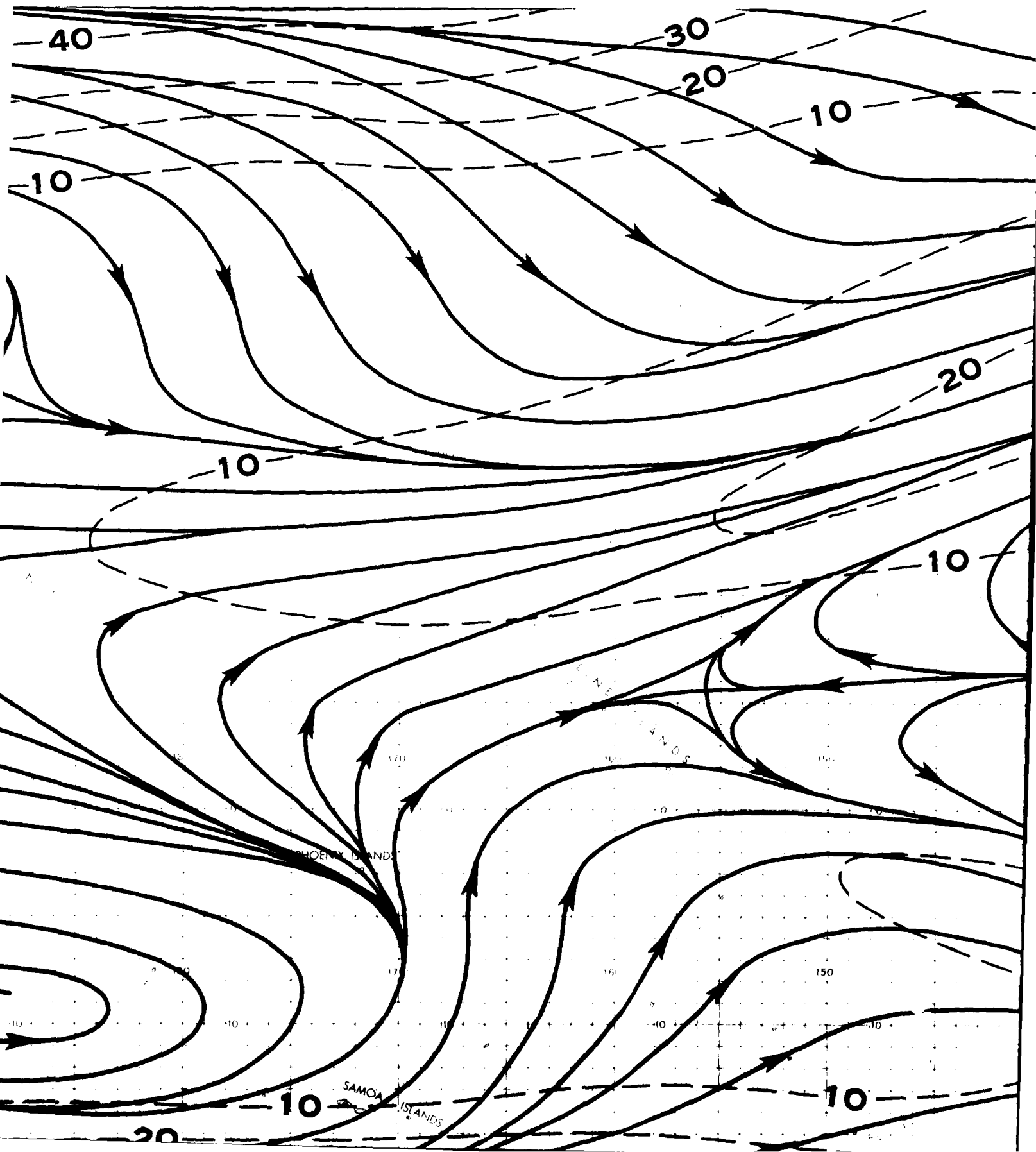
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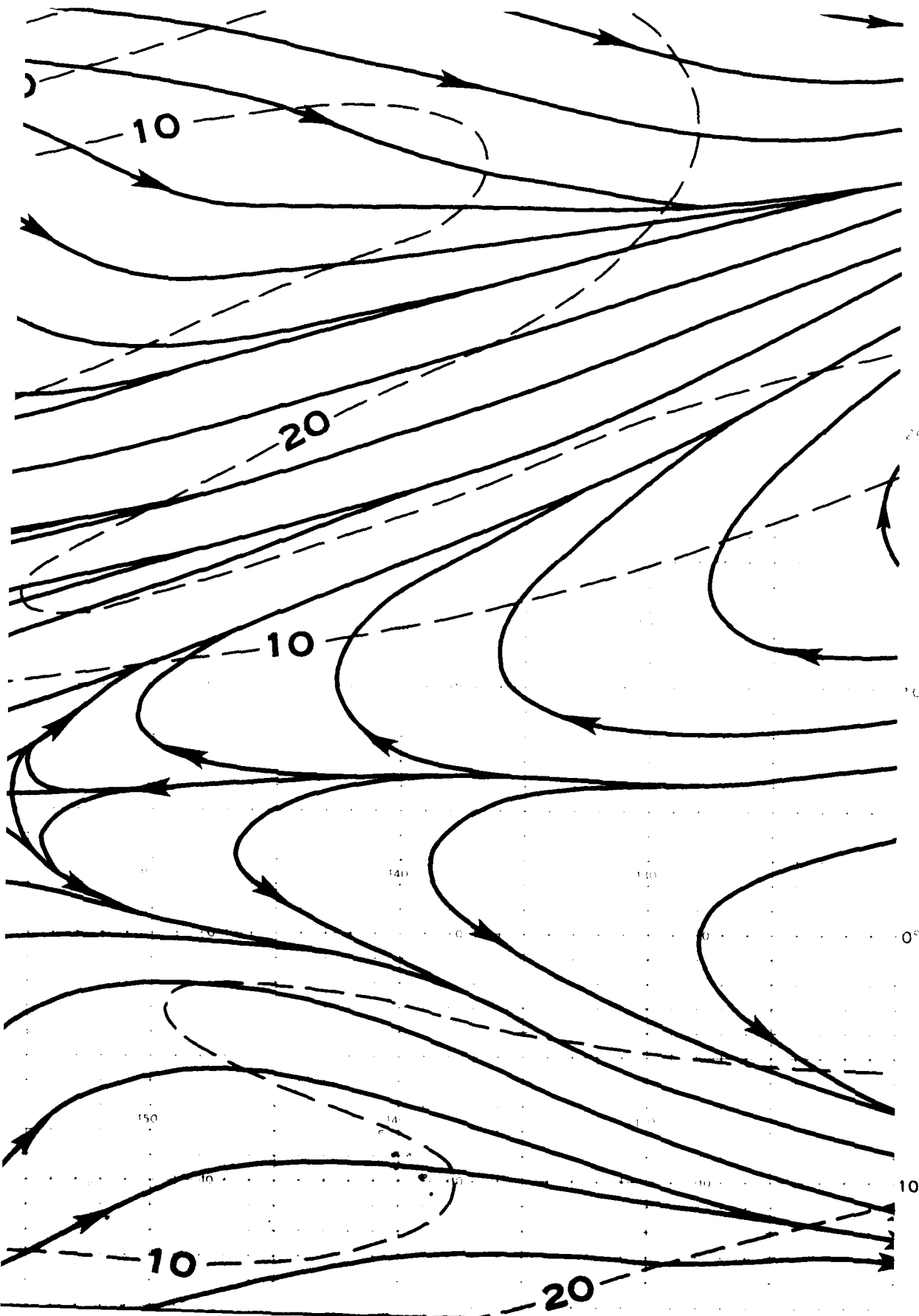
# WINDS over GLOBAL TROPICS - J

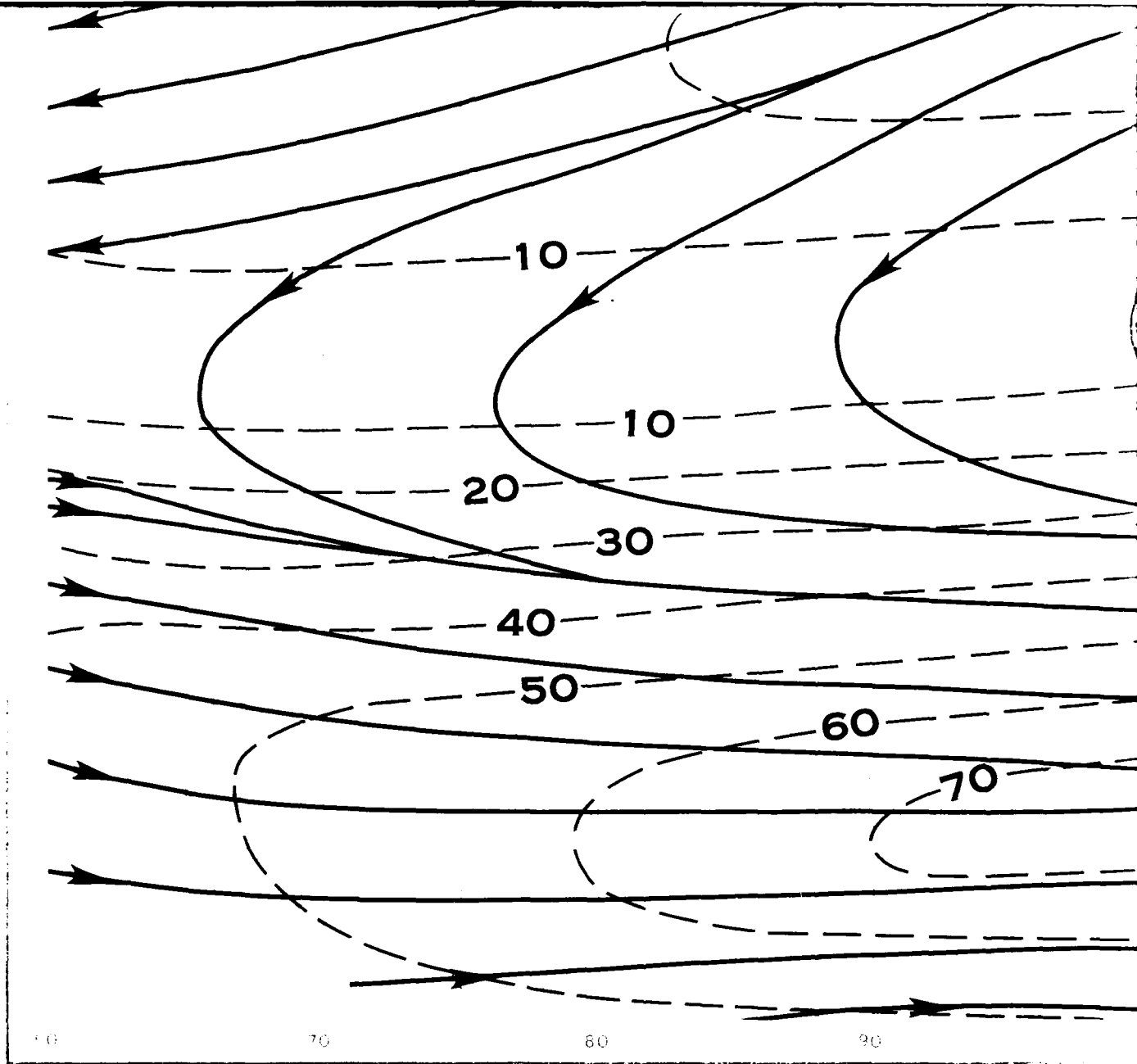


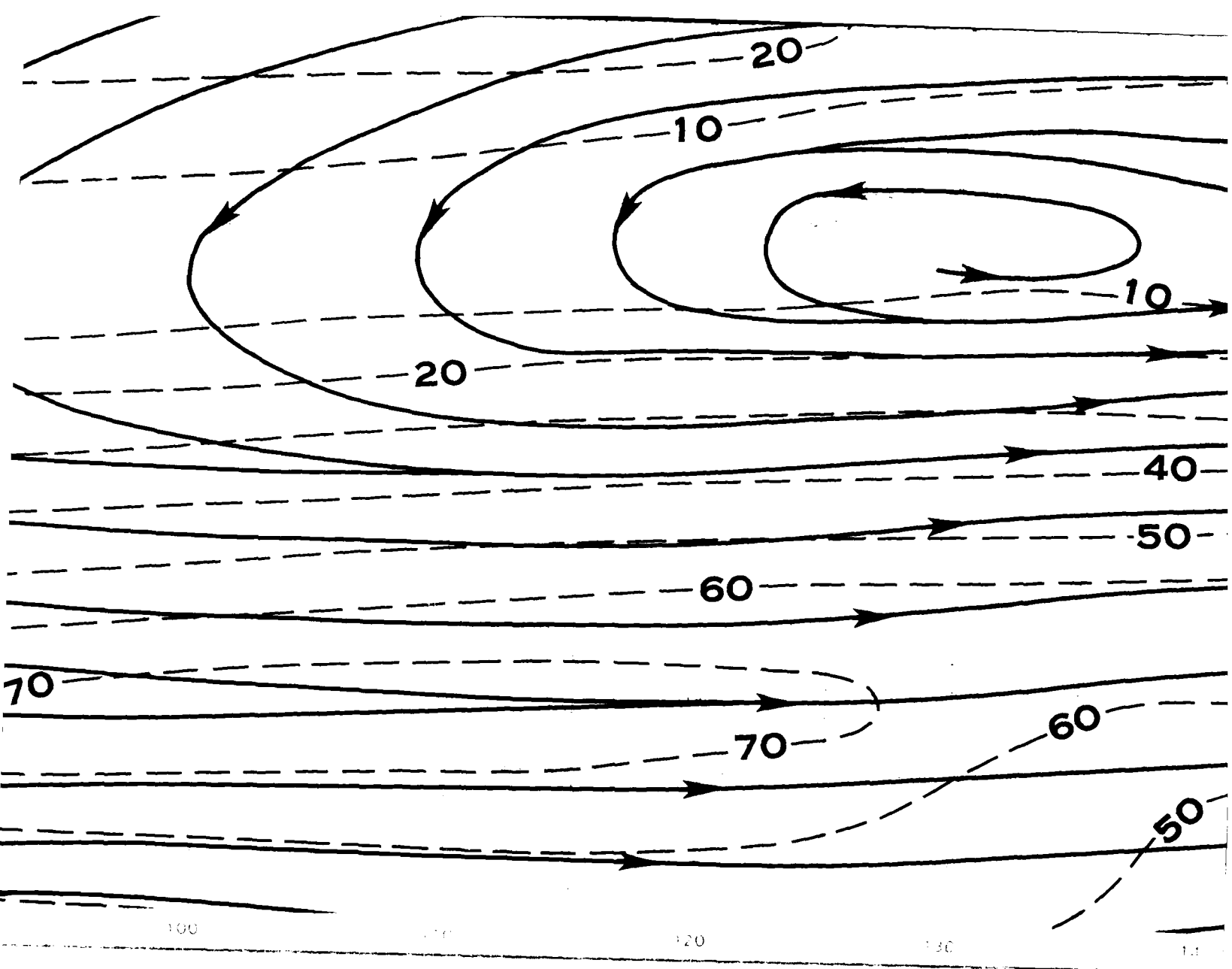
# ICS - JUNE 300mb











(7)

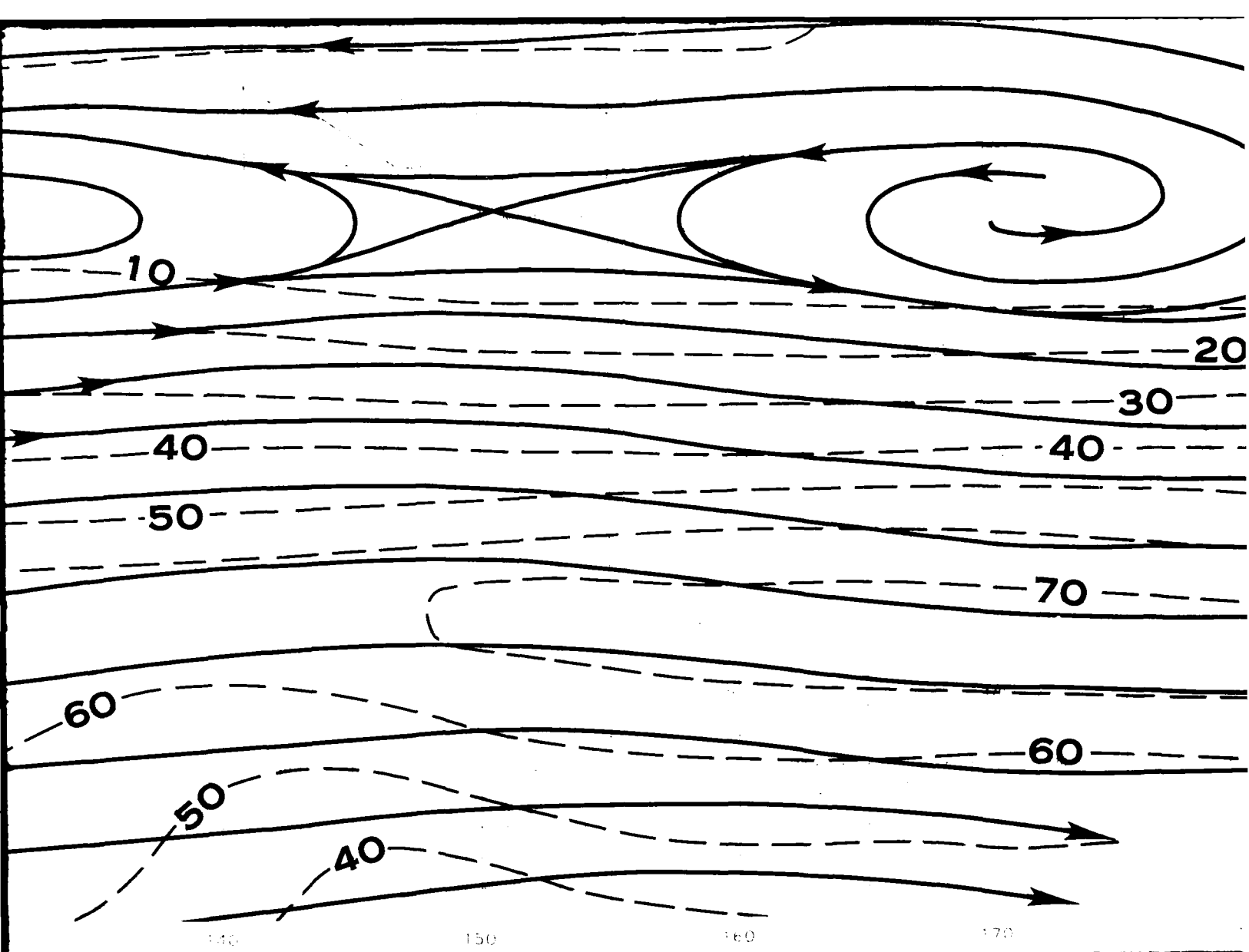
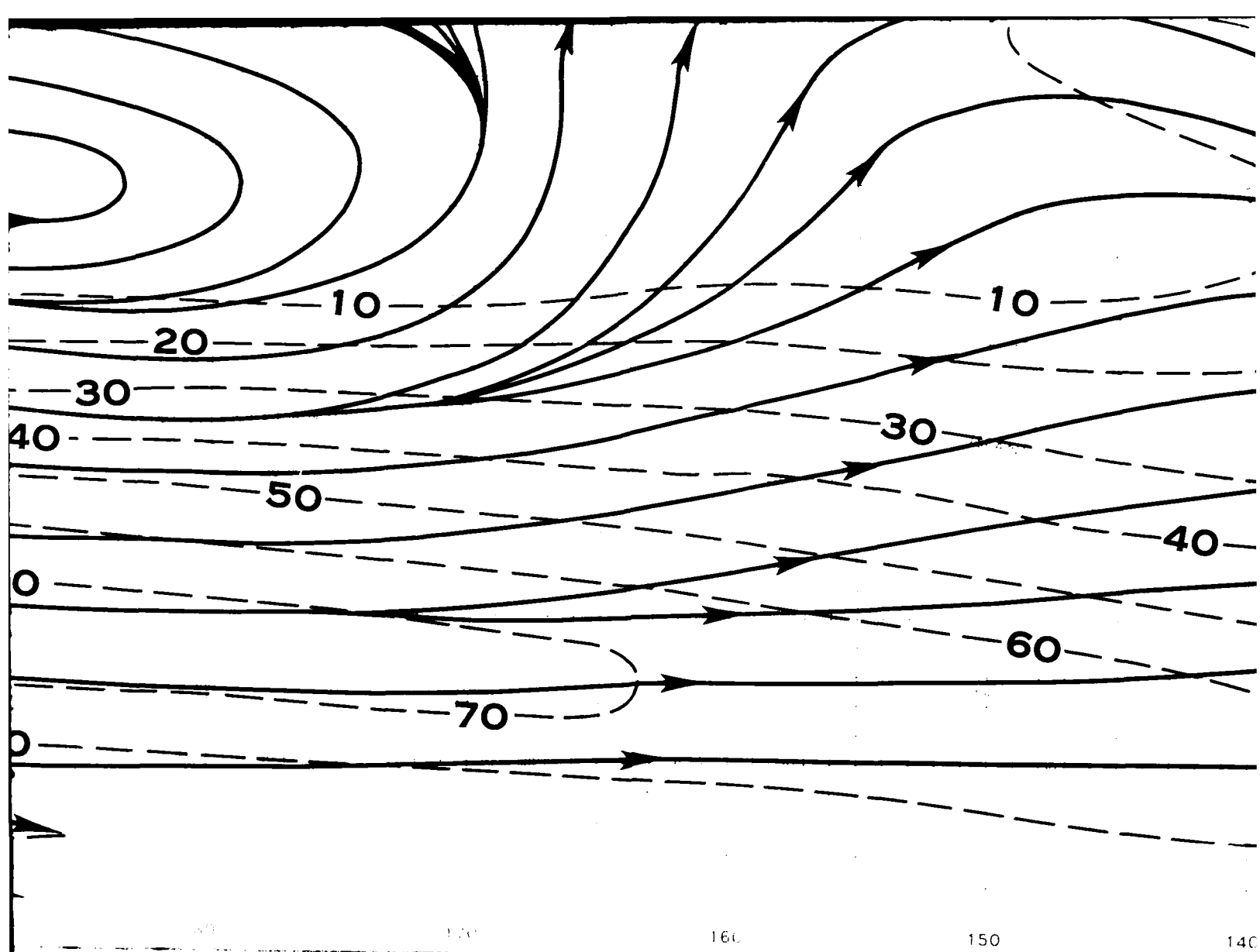


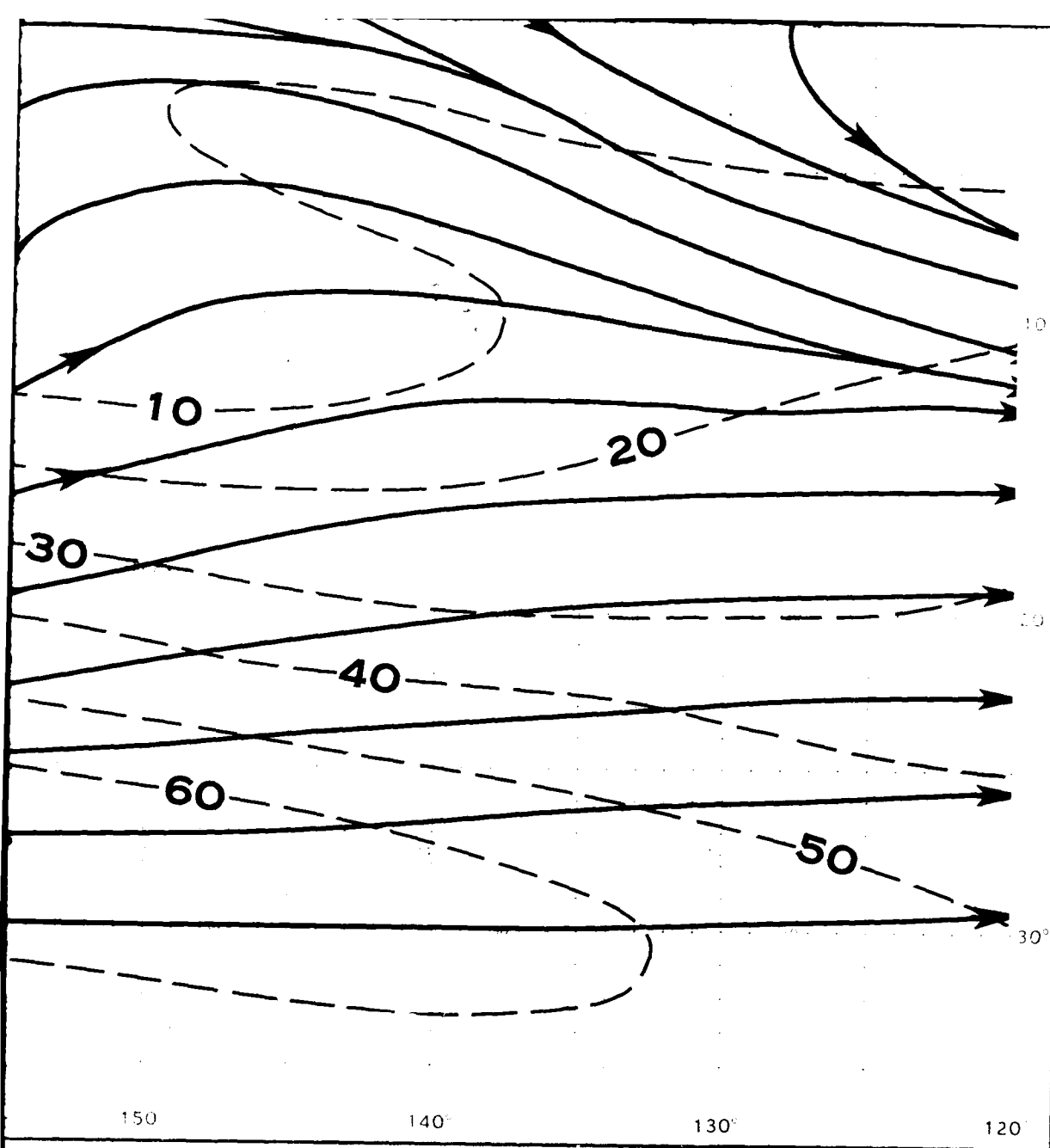
Figure 1  
Contour Plot

(9)



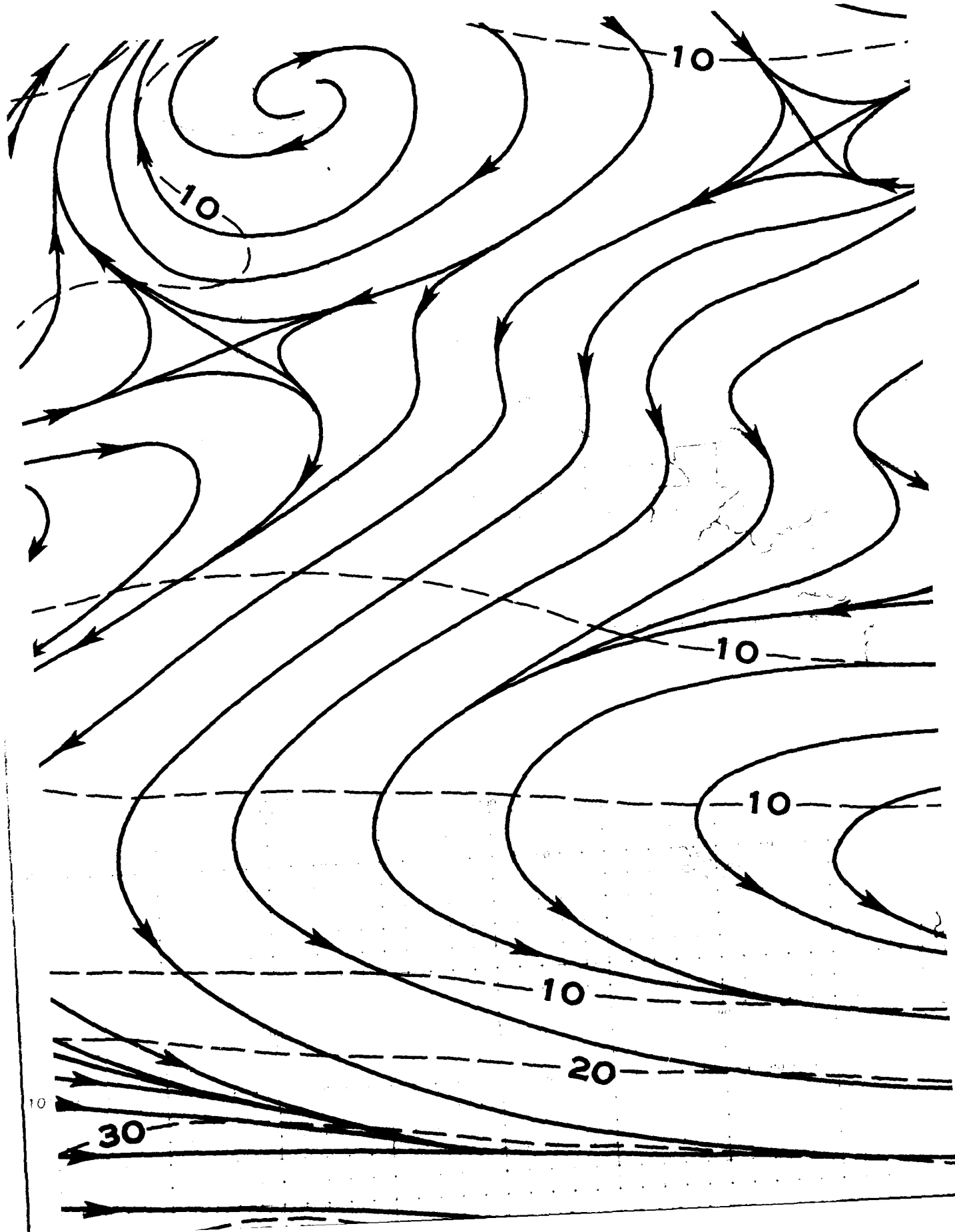
Fig



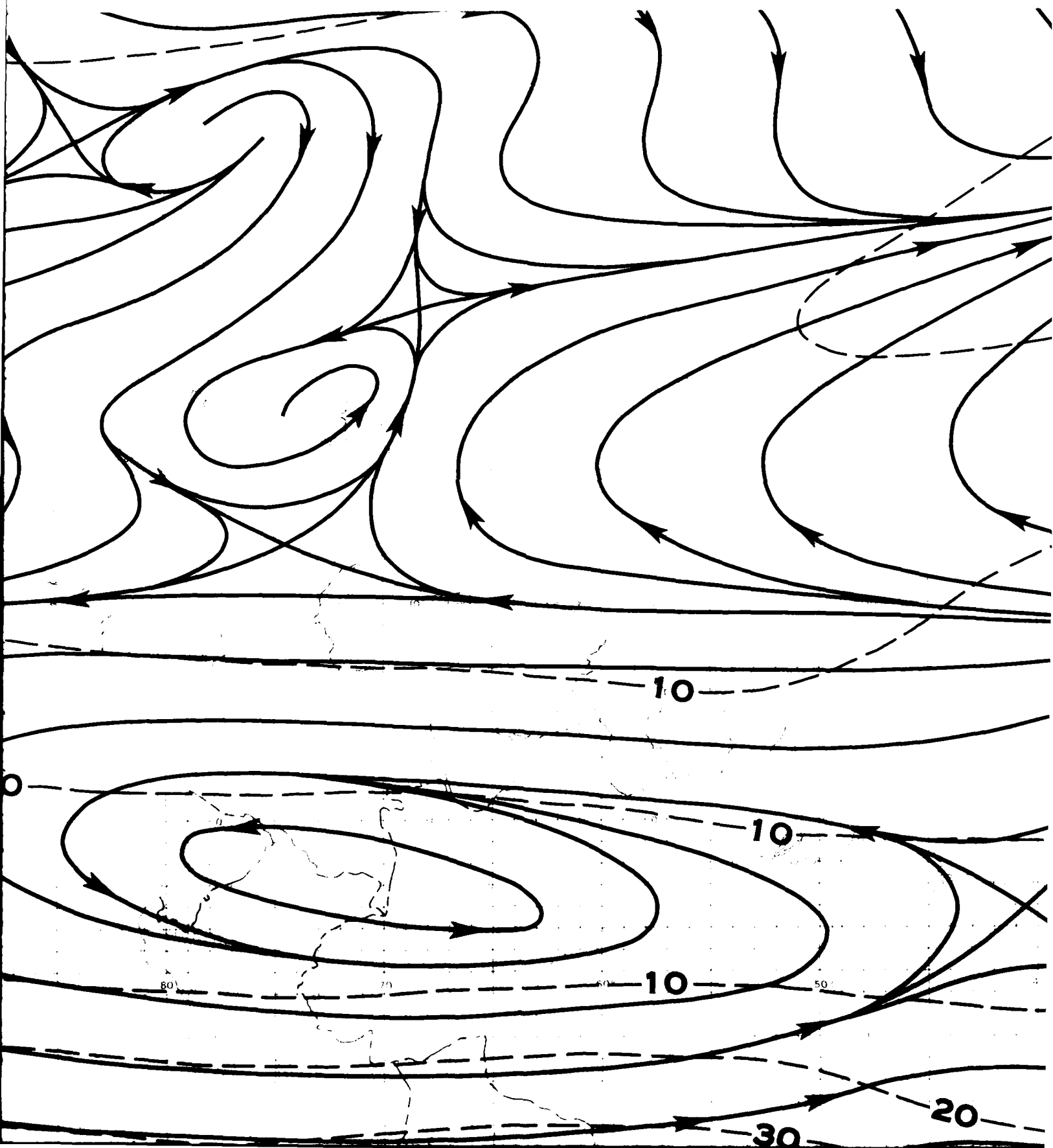


16

MULW-306E

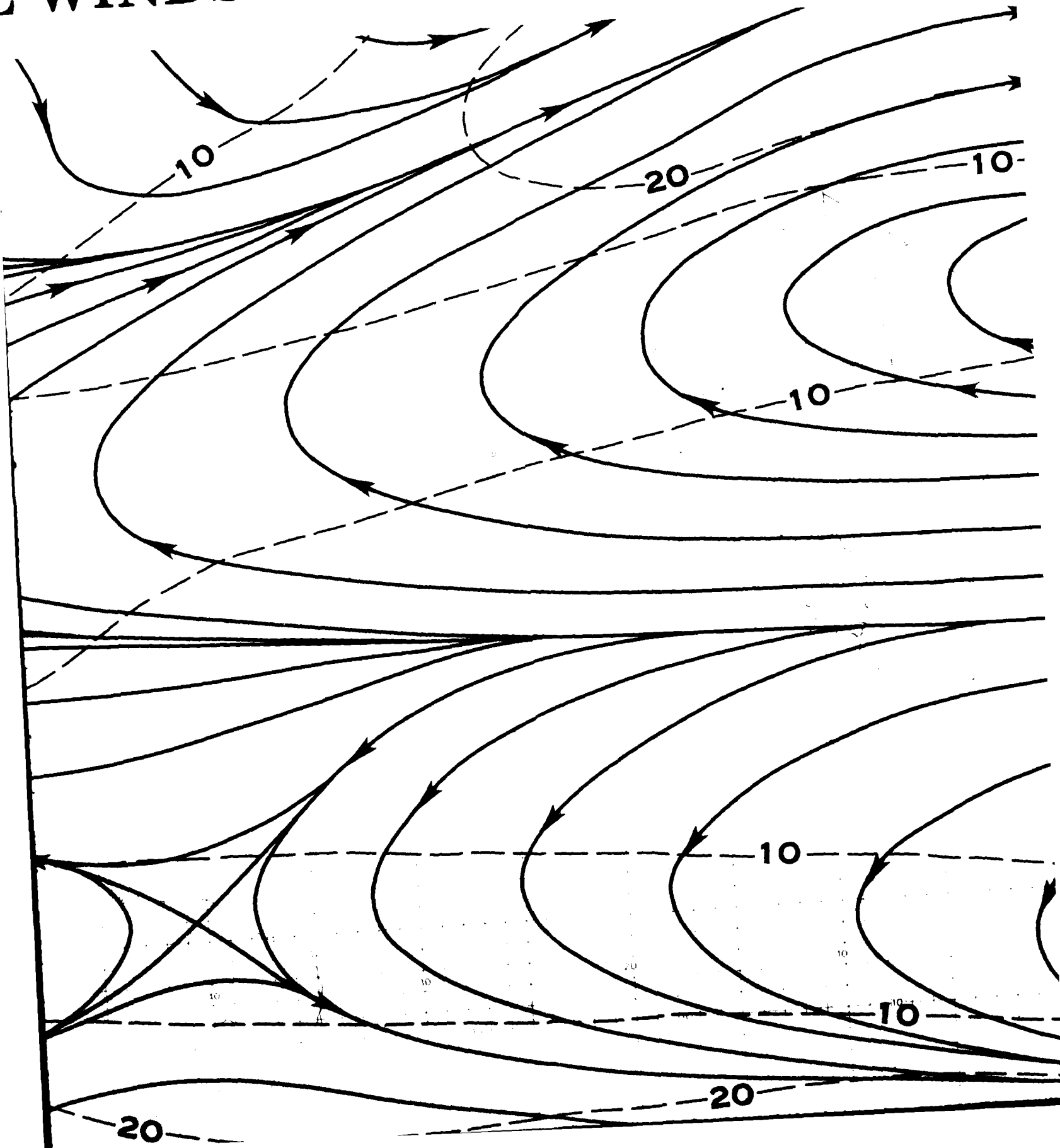


# MEAN UPPER LEVEL WIN

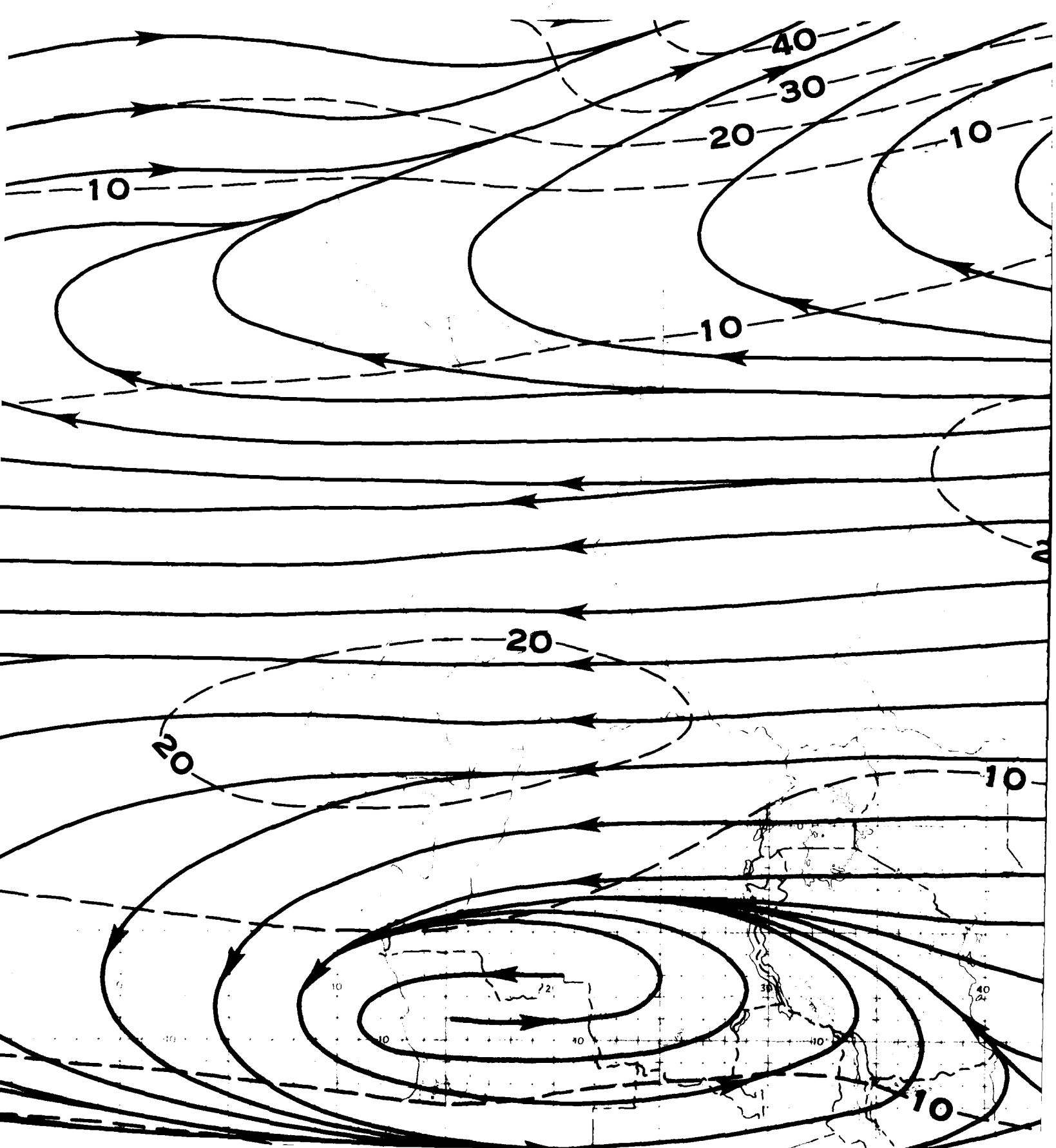


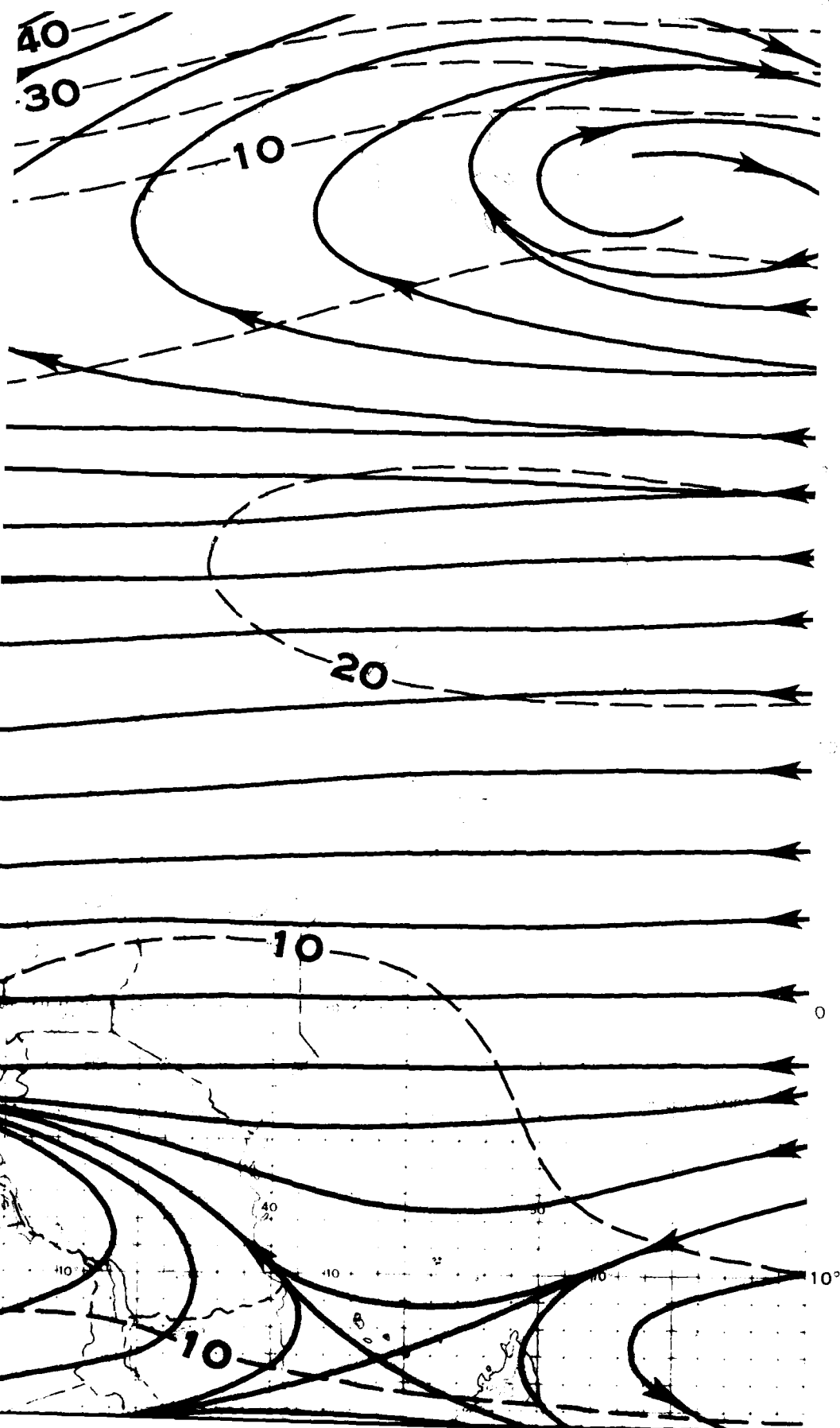


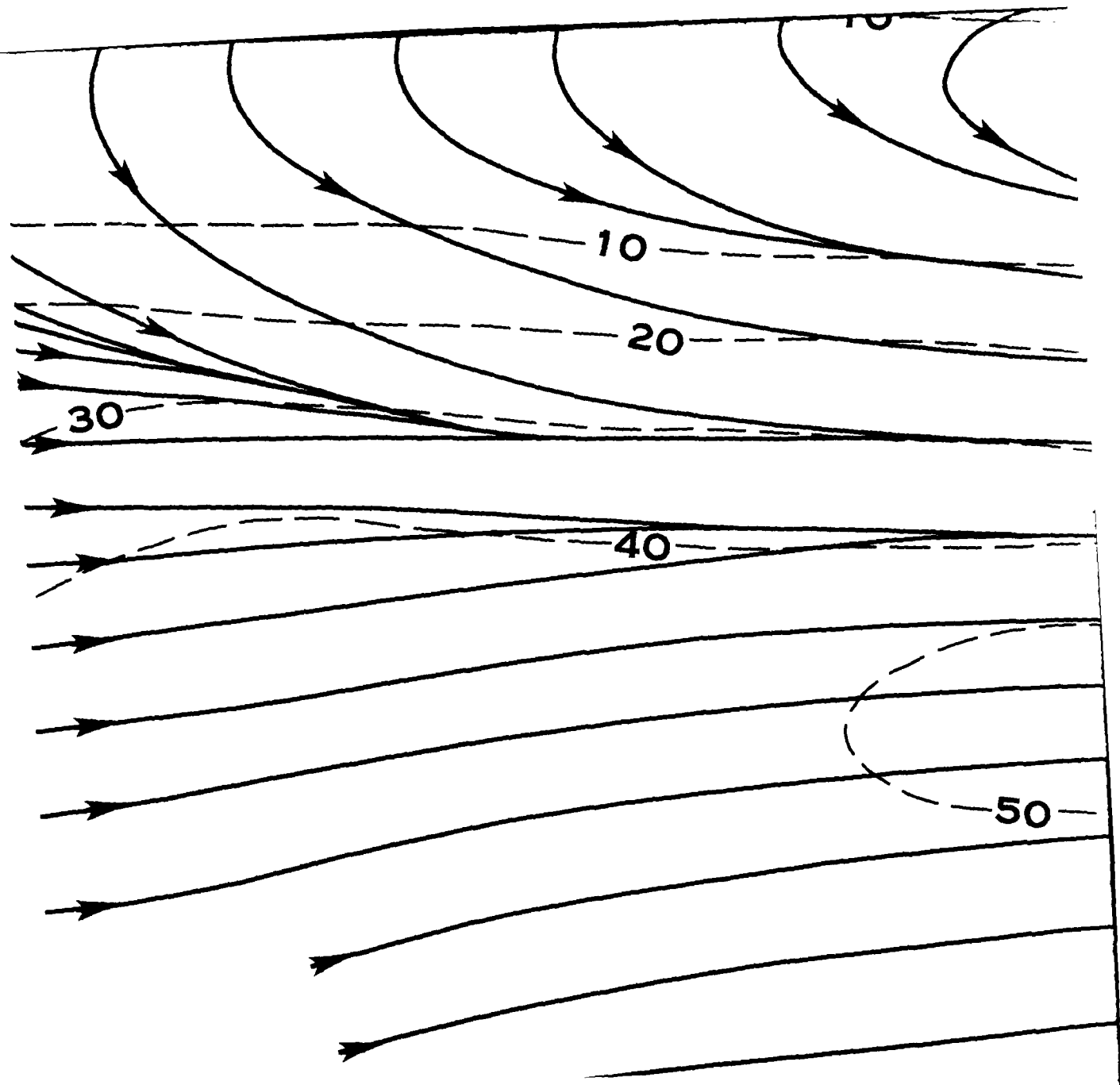
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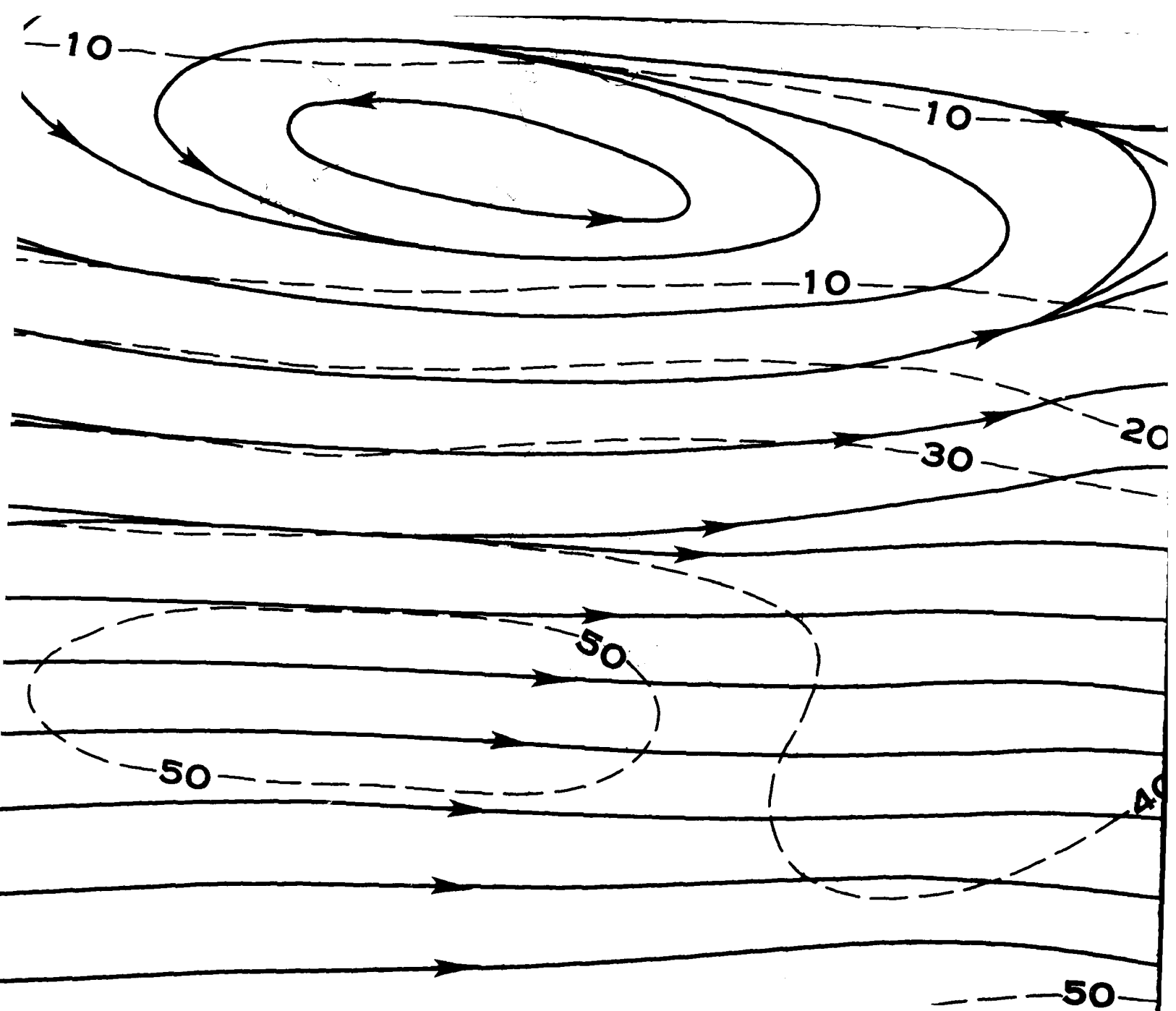


CS - JULY 300mb

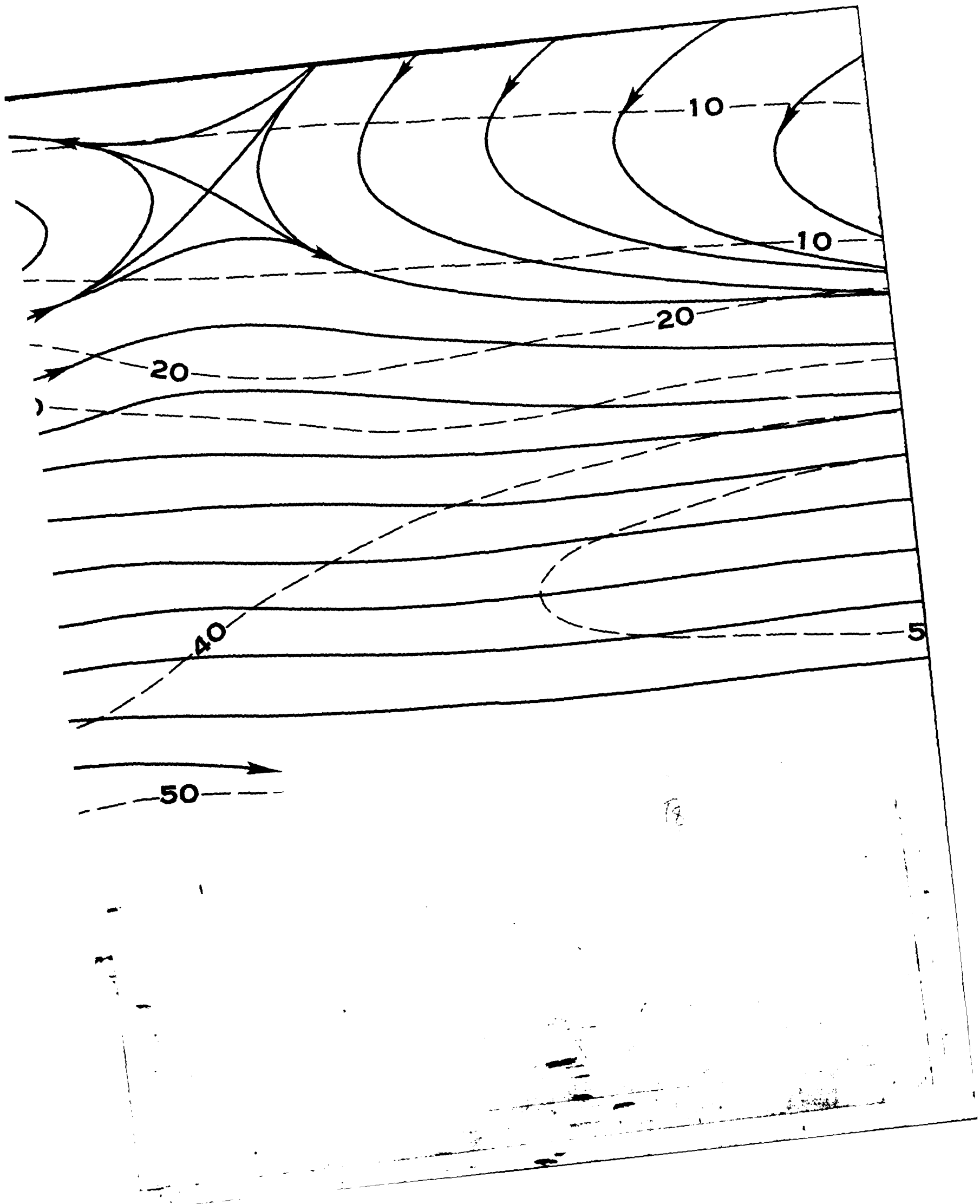


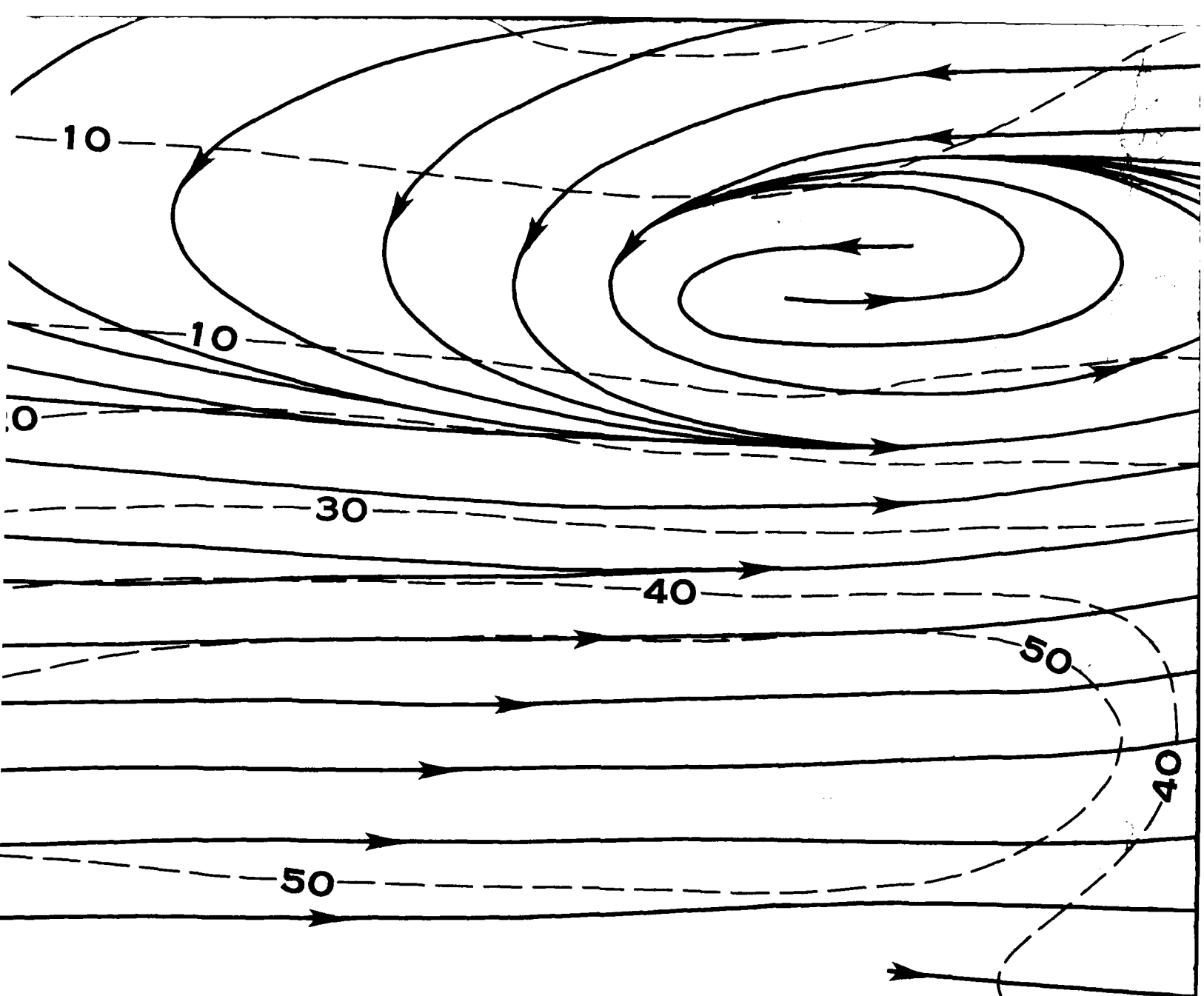


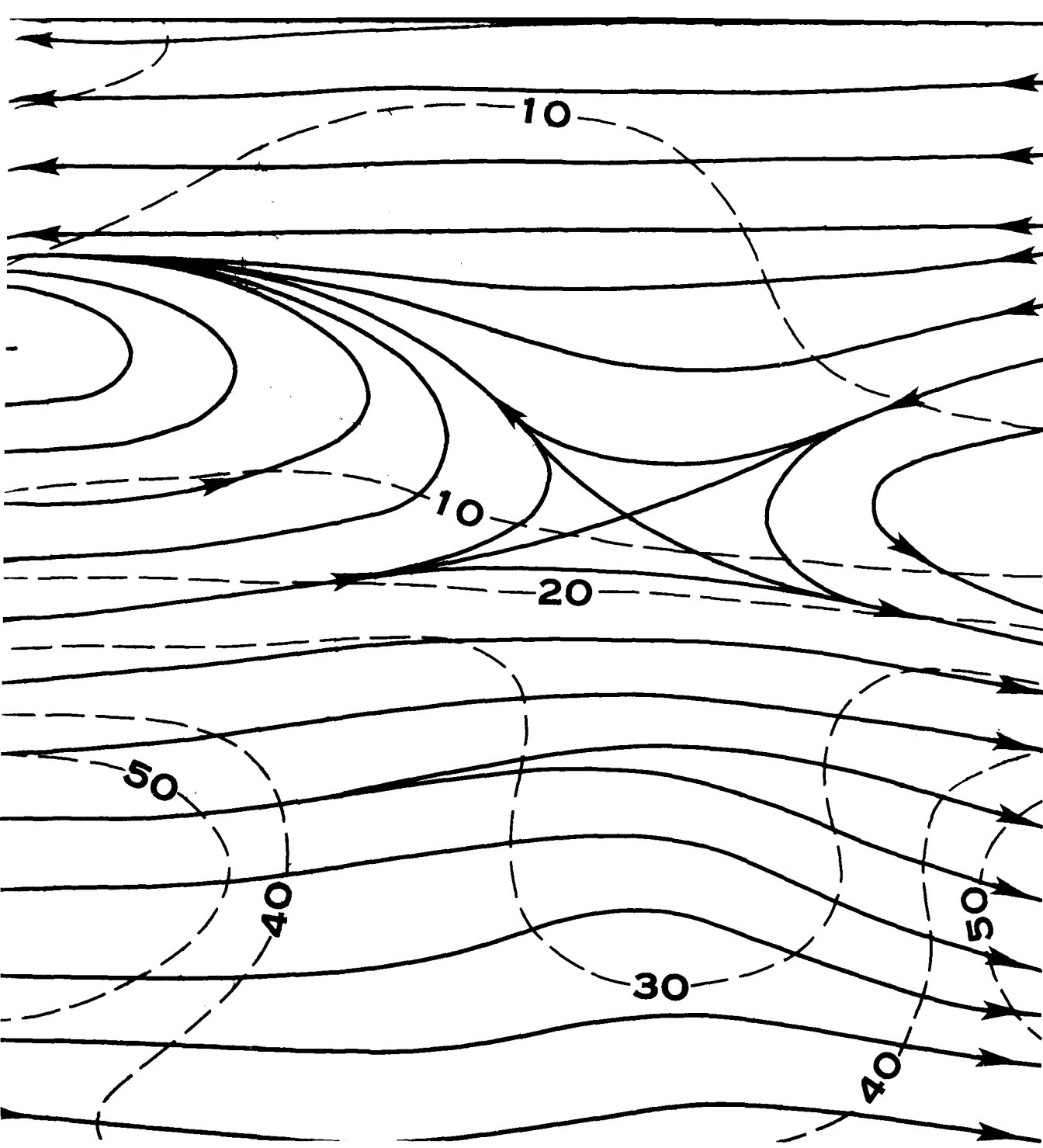




7

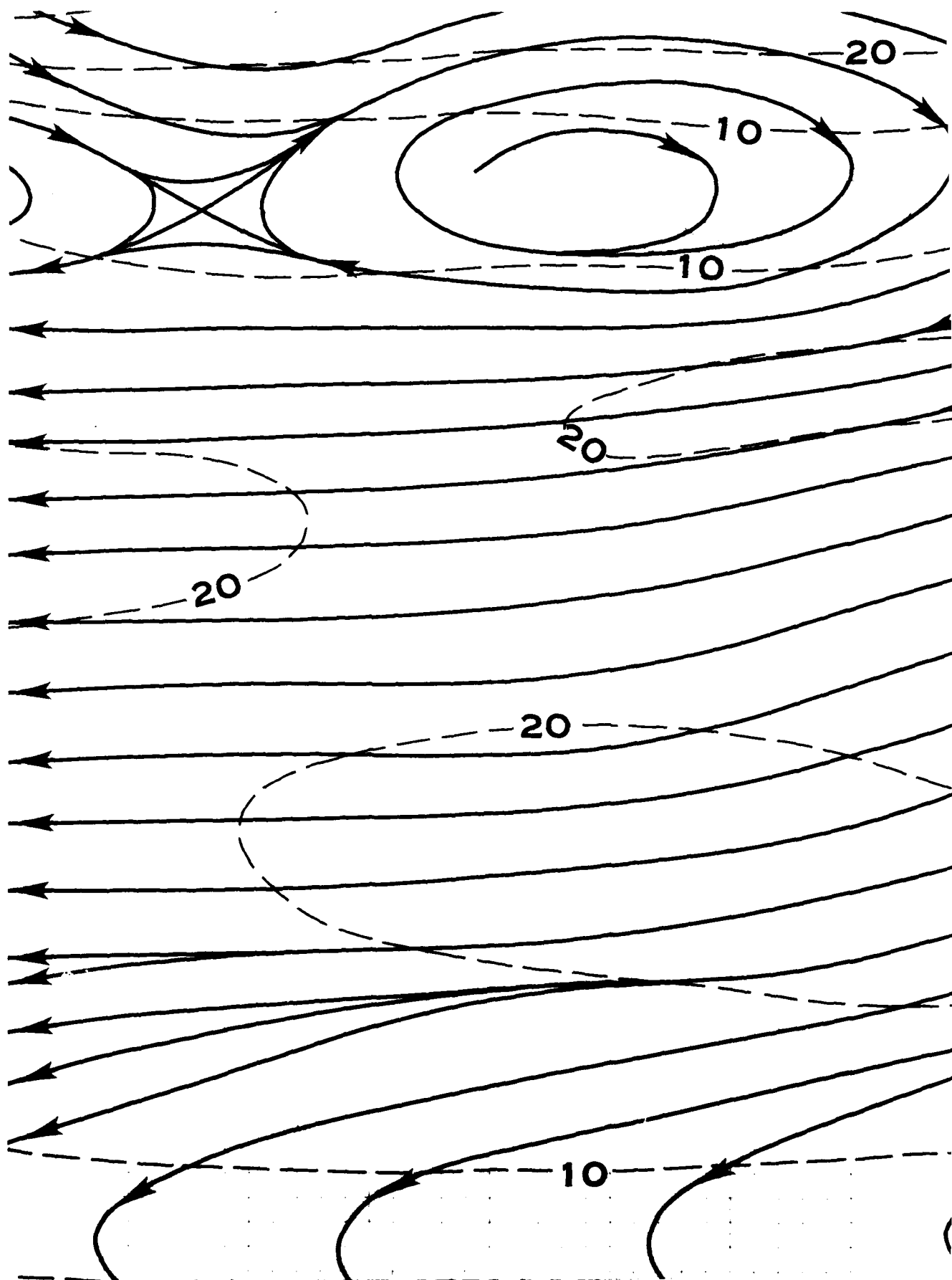




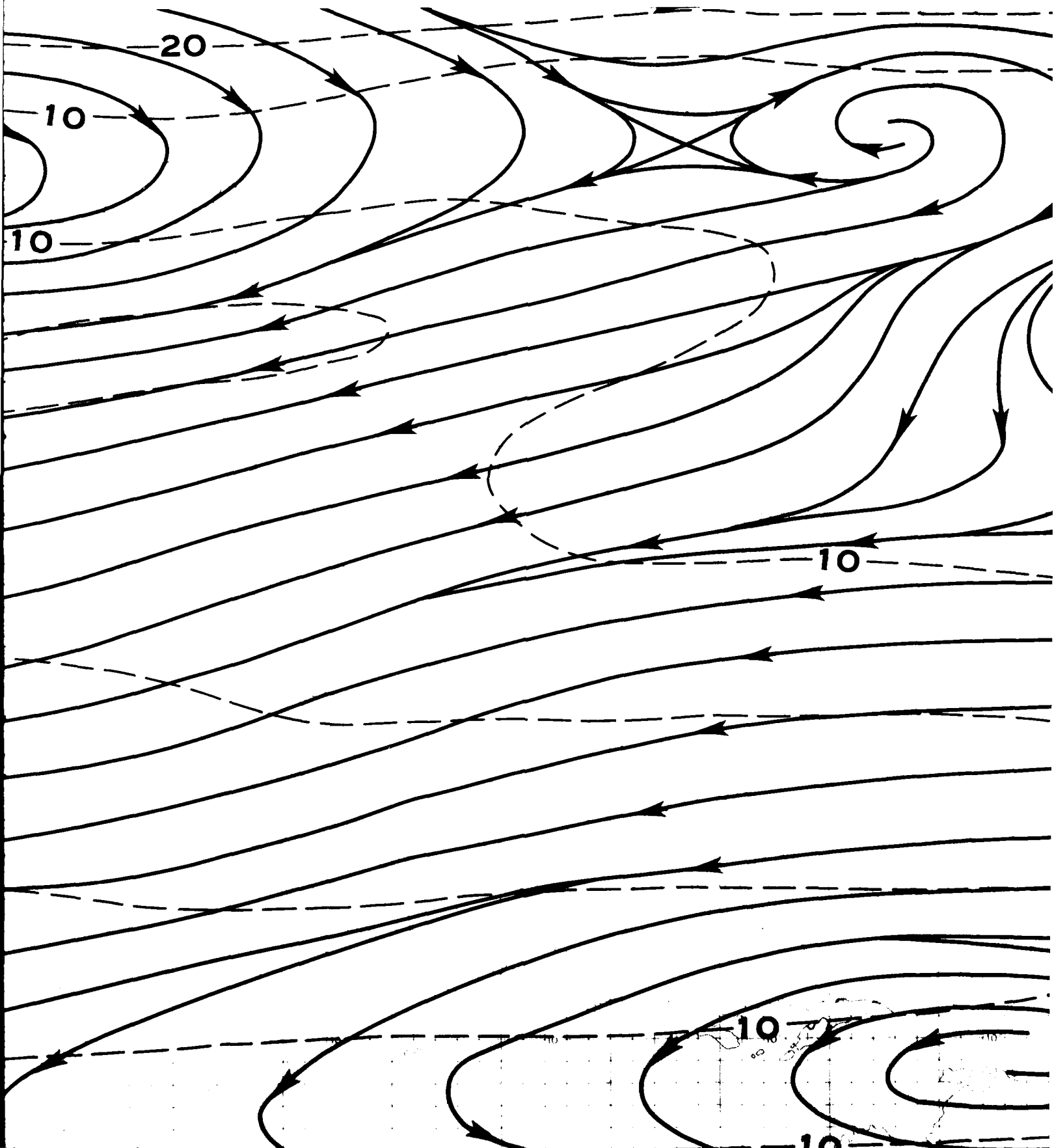


MULW-307W

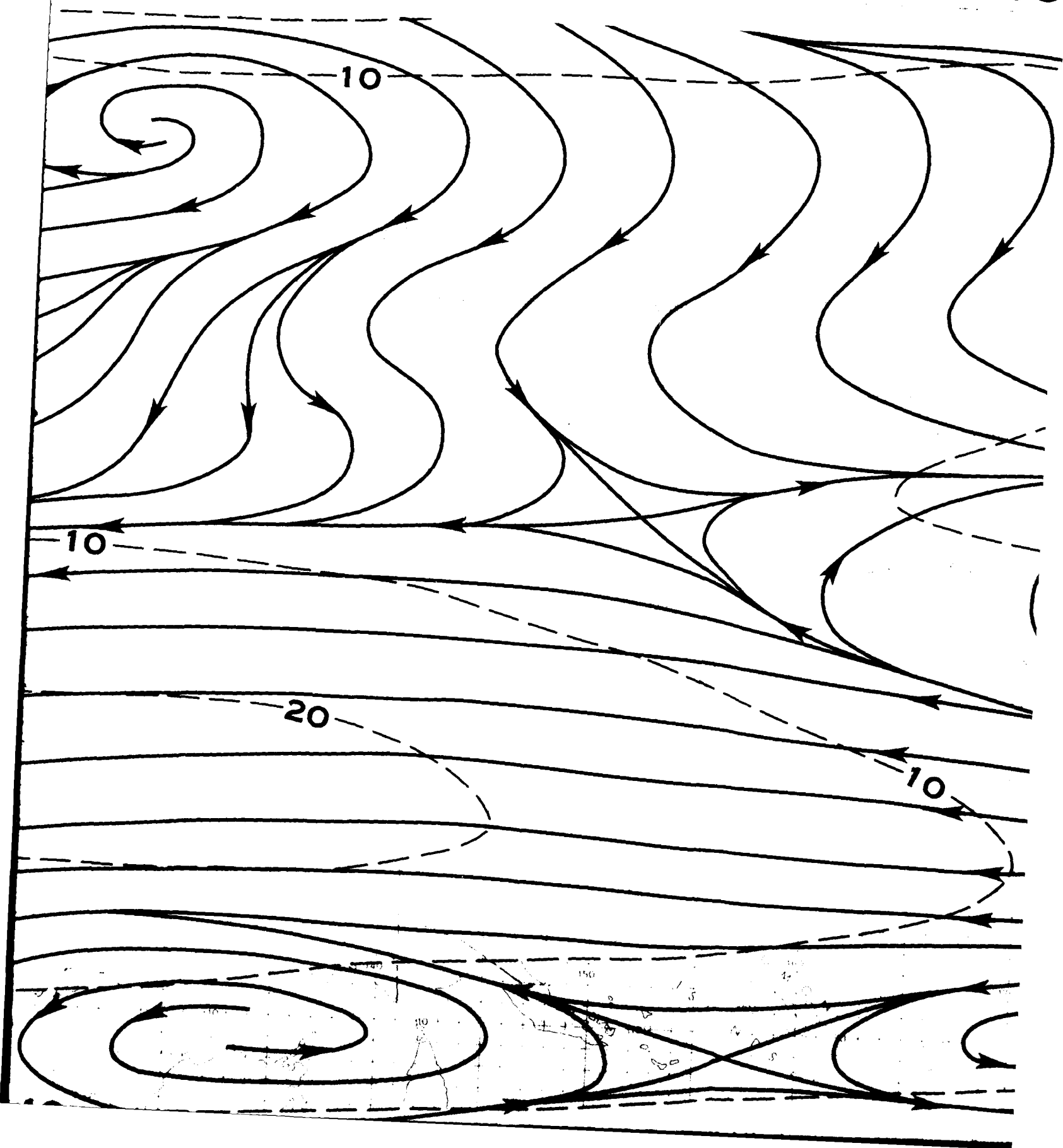




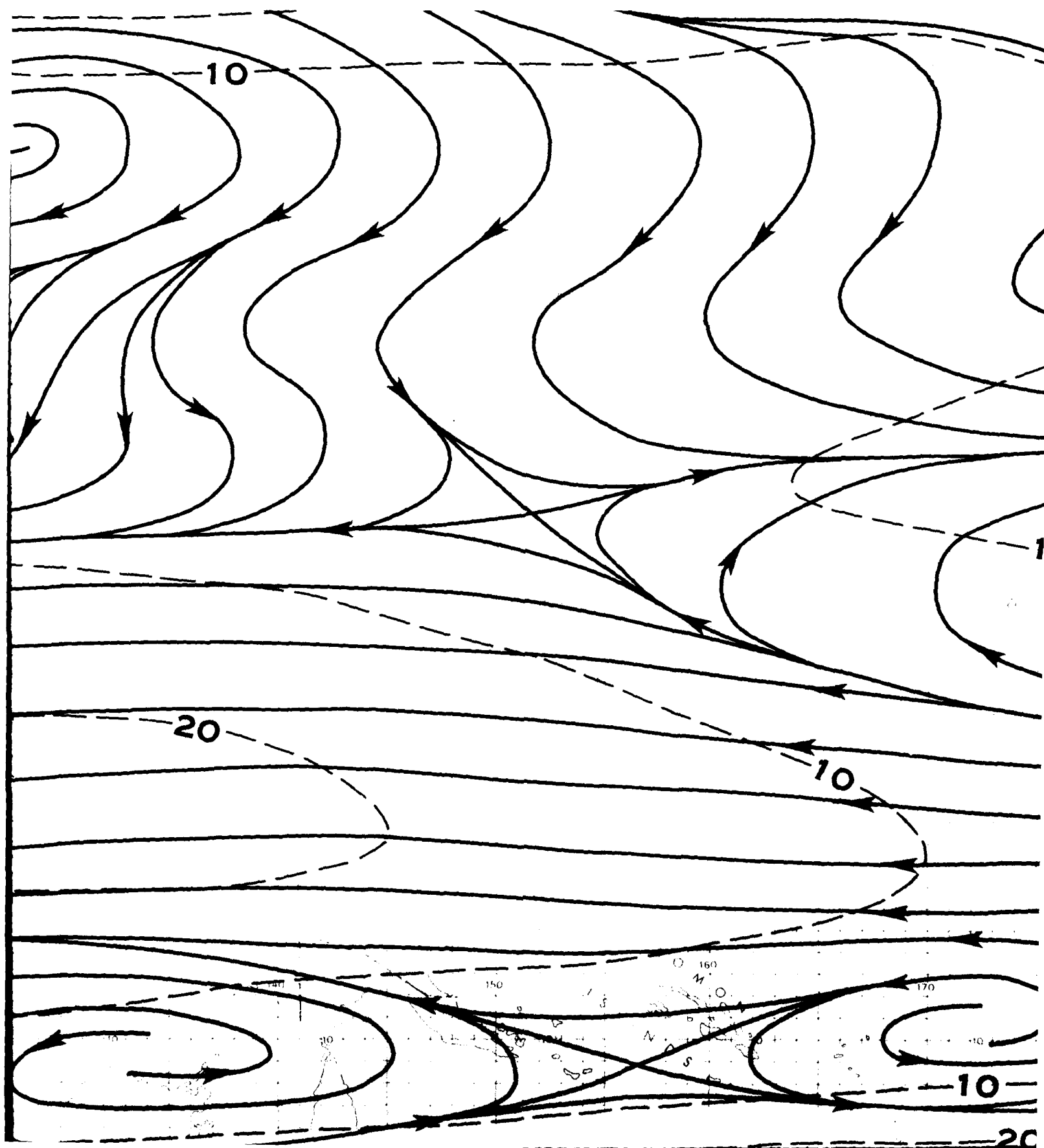
# MEAN UPPER LEVEL



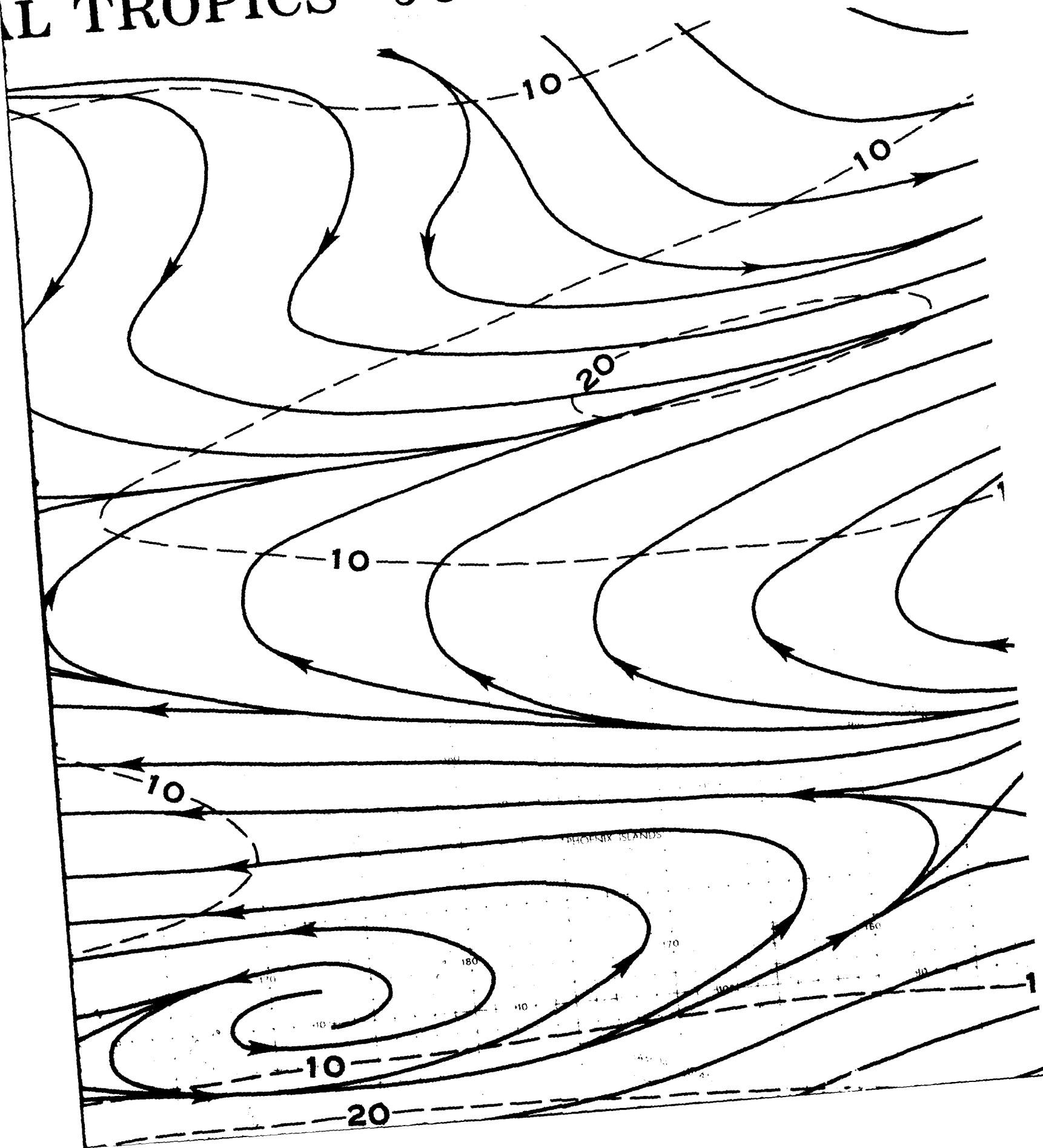
# 3 R LEVEL WINDS over GLOBAL TRO

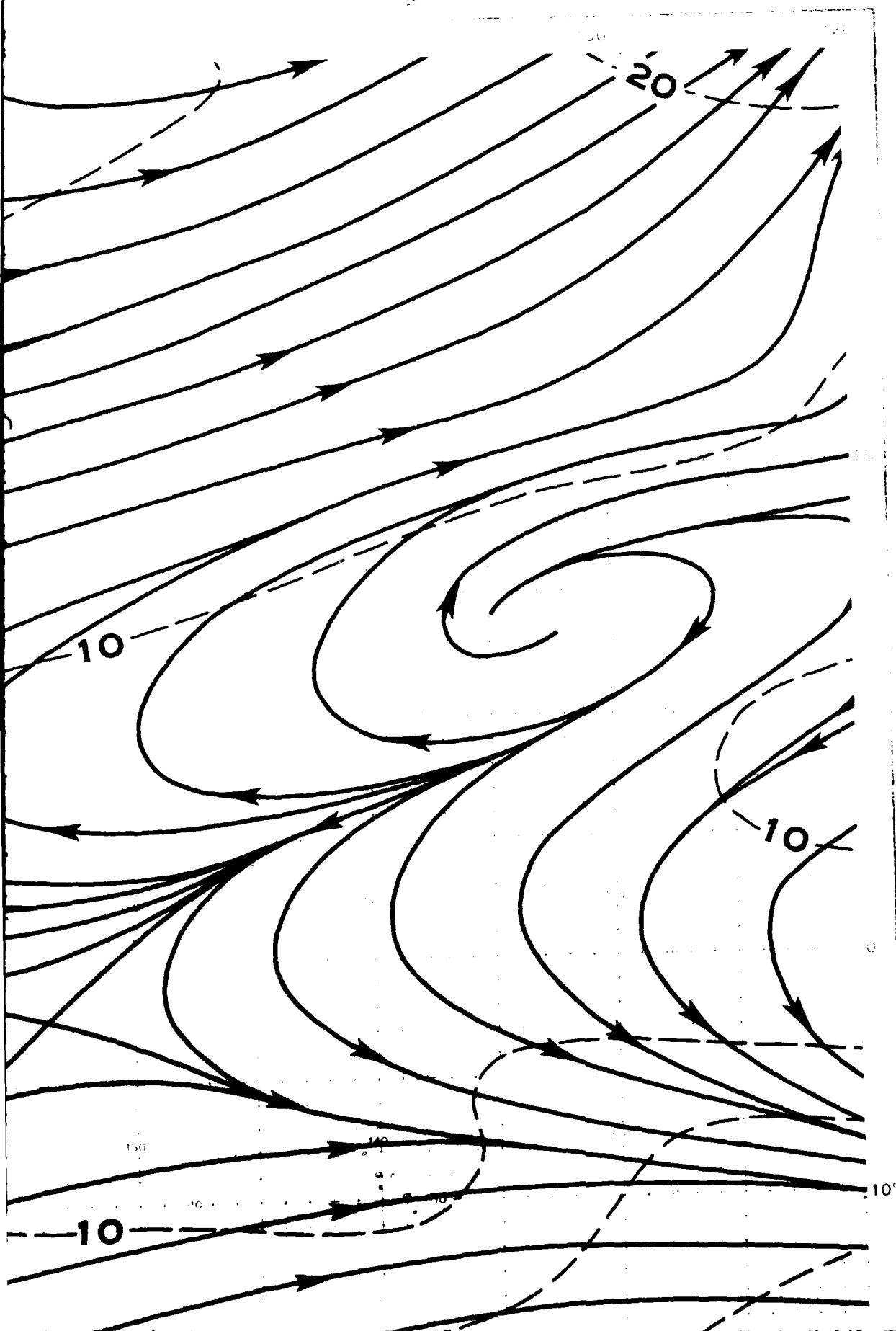


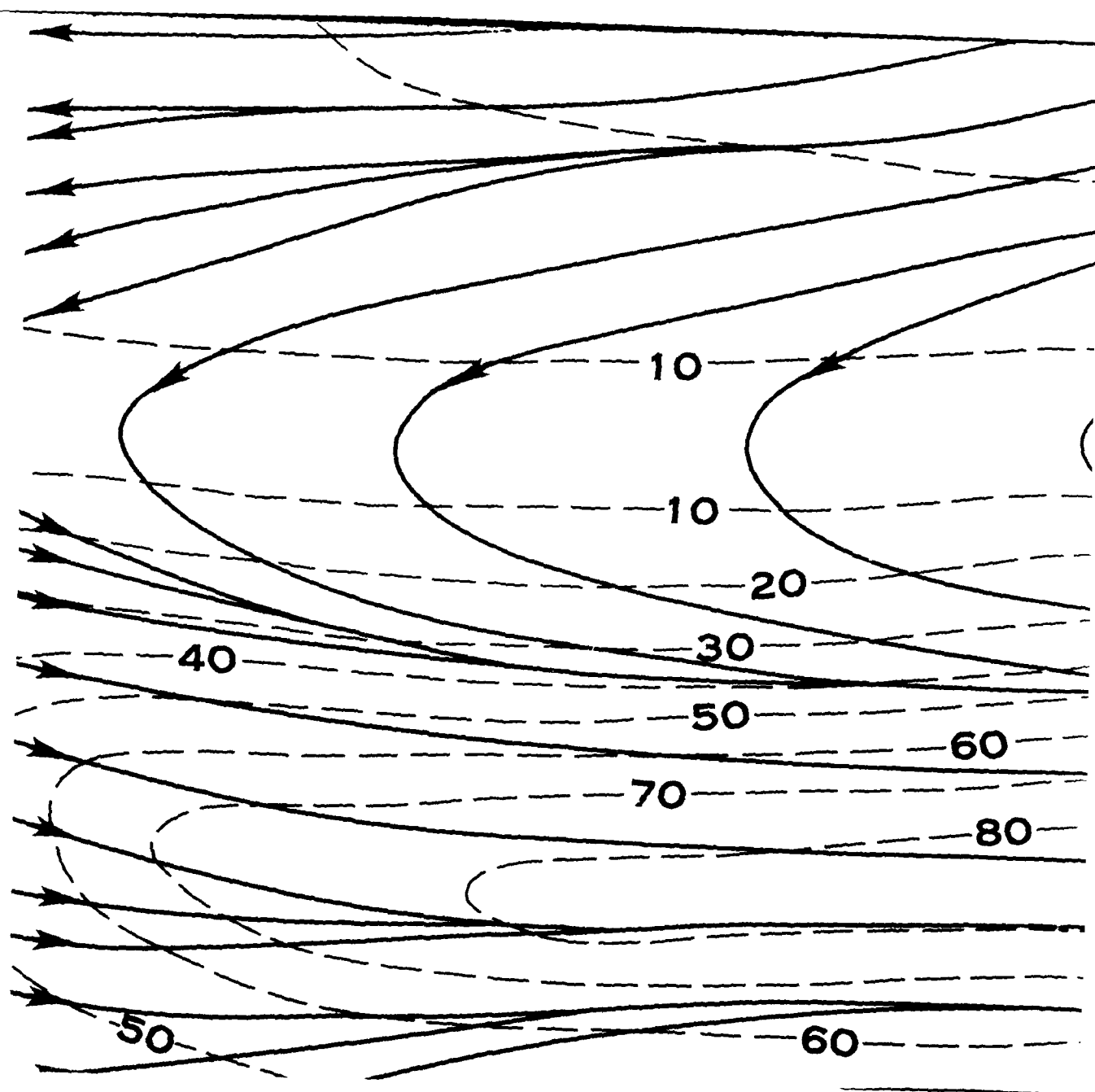
# LEVEL WINDS over GLOBAL TROPIC

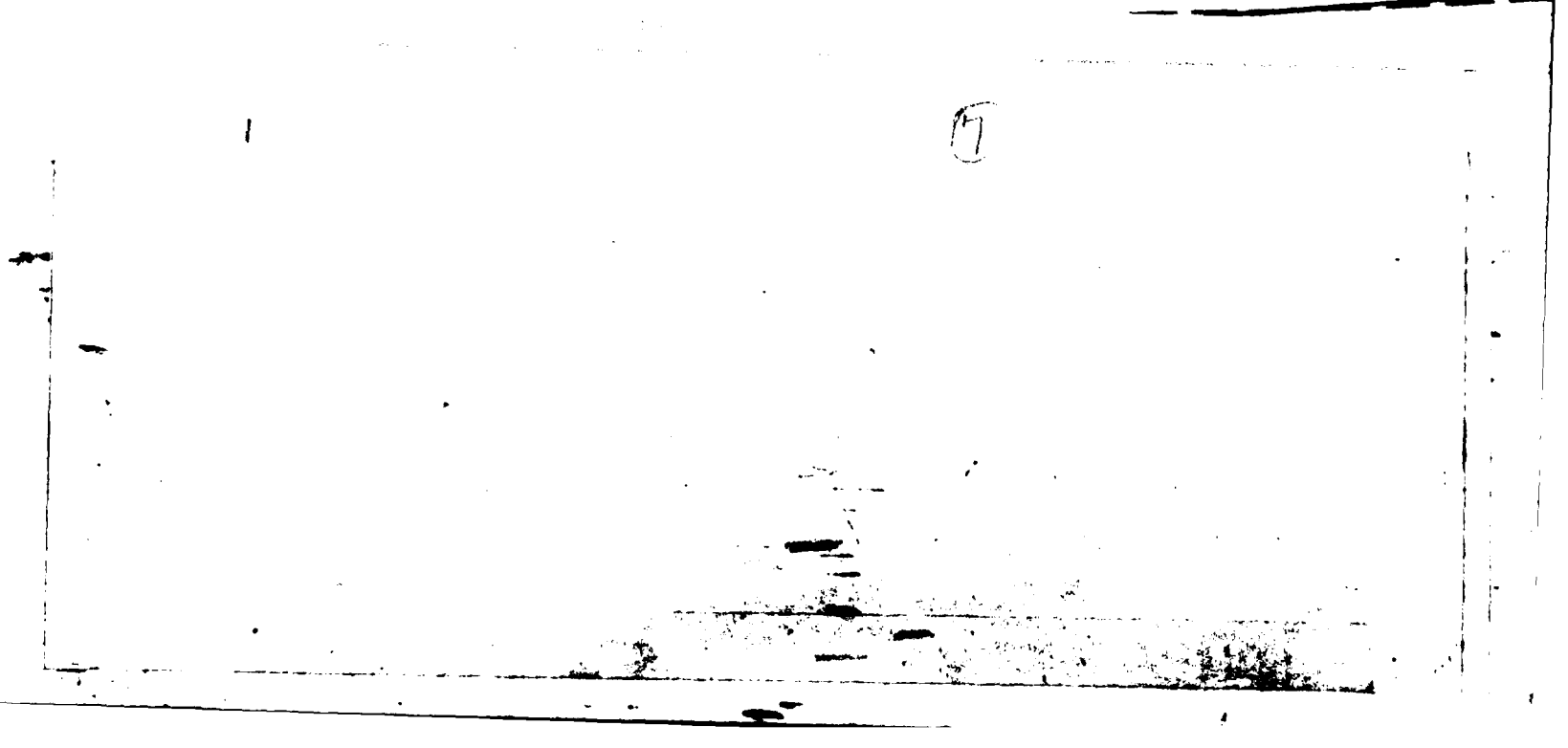
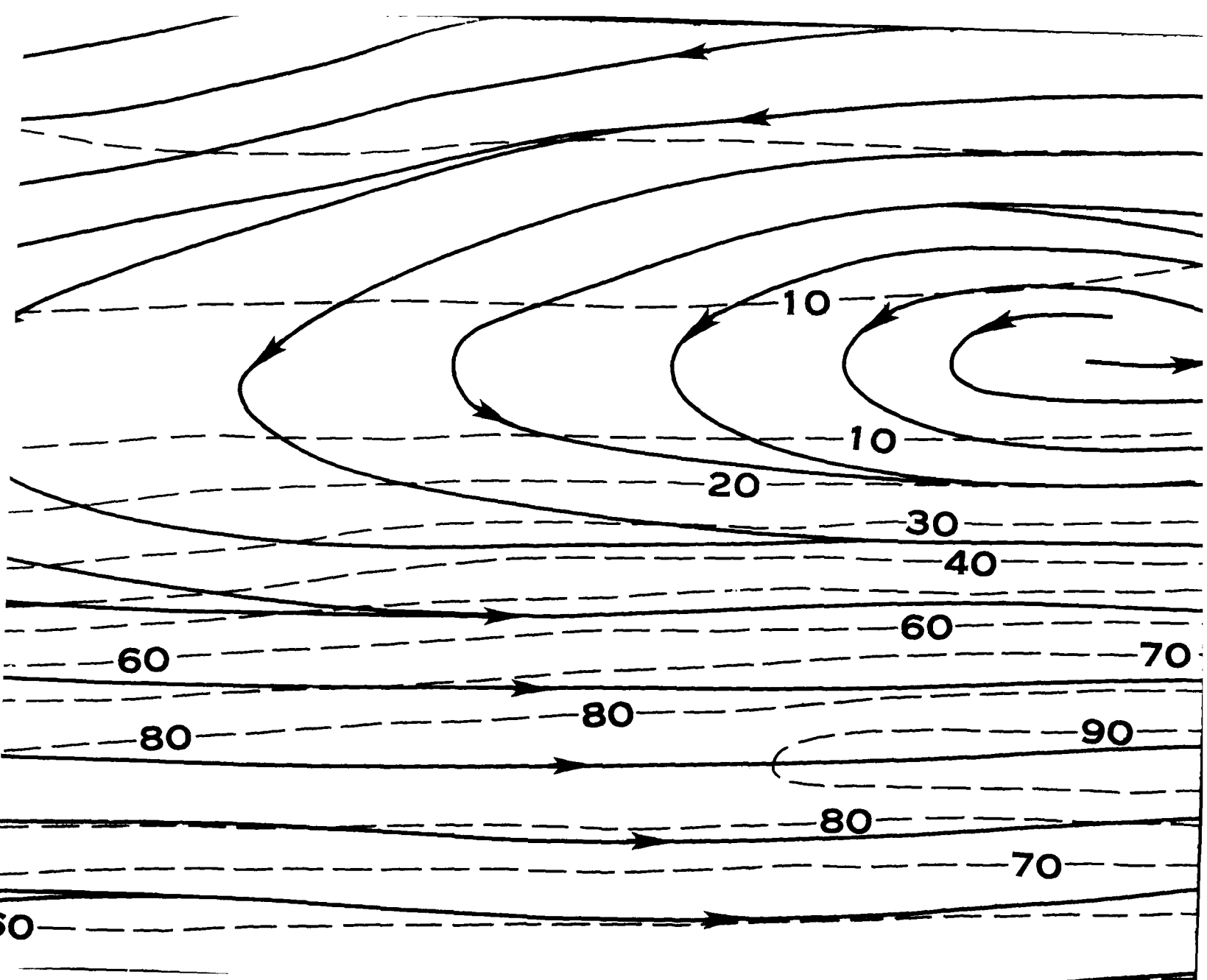


# AL TROPICS - JULY 300mb

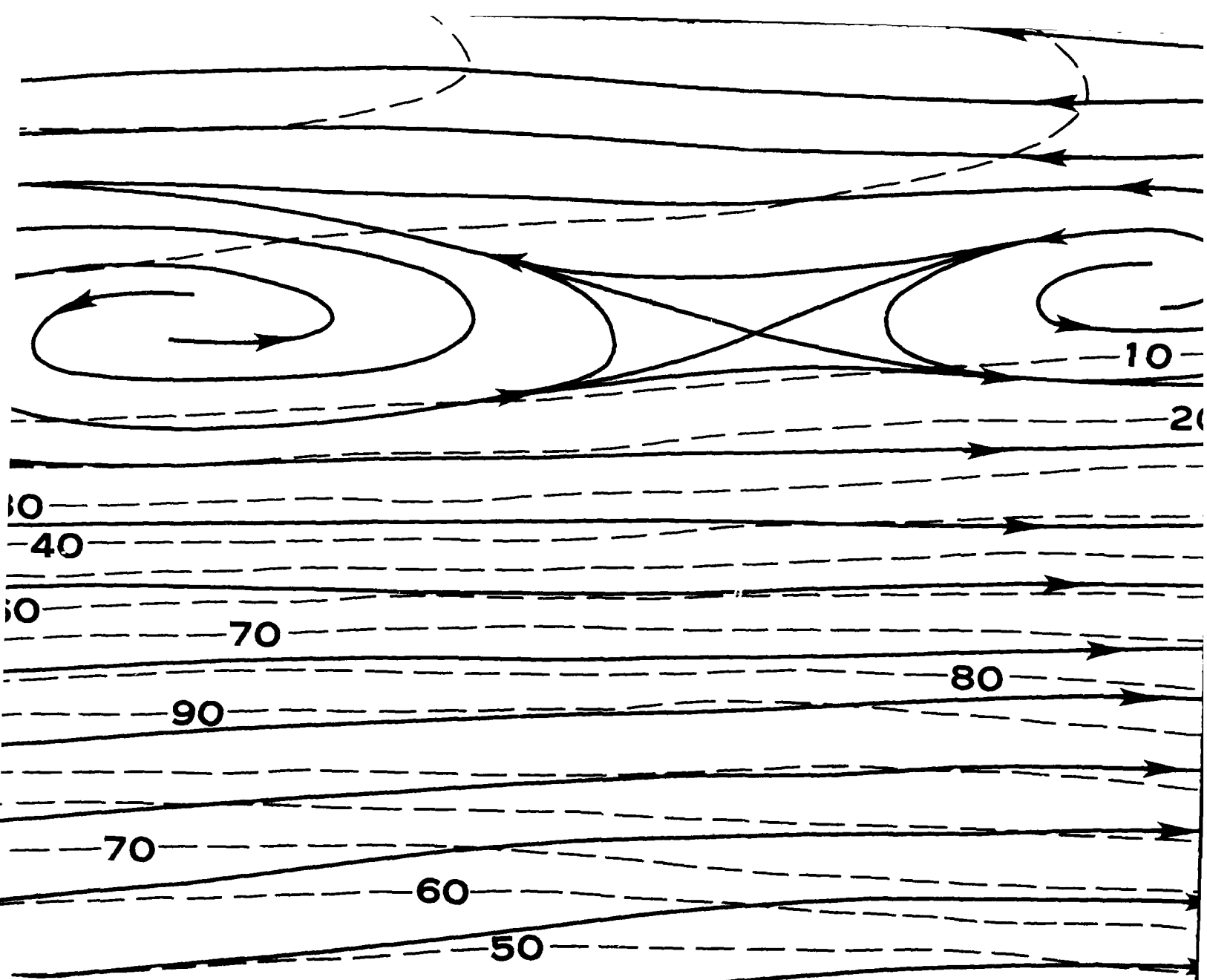




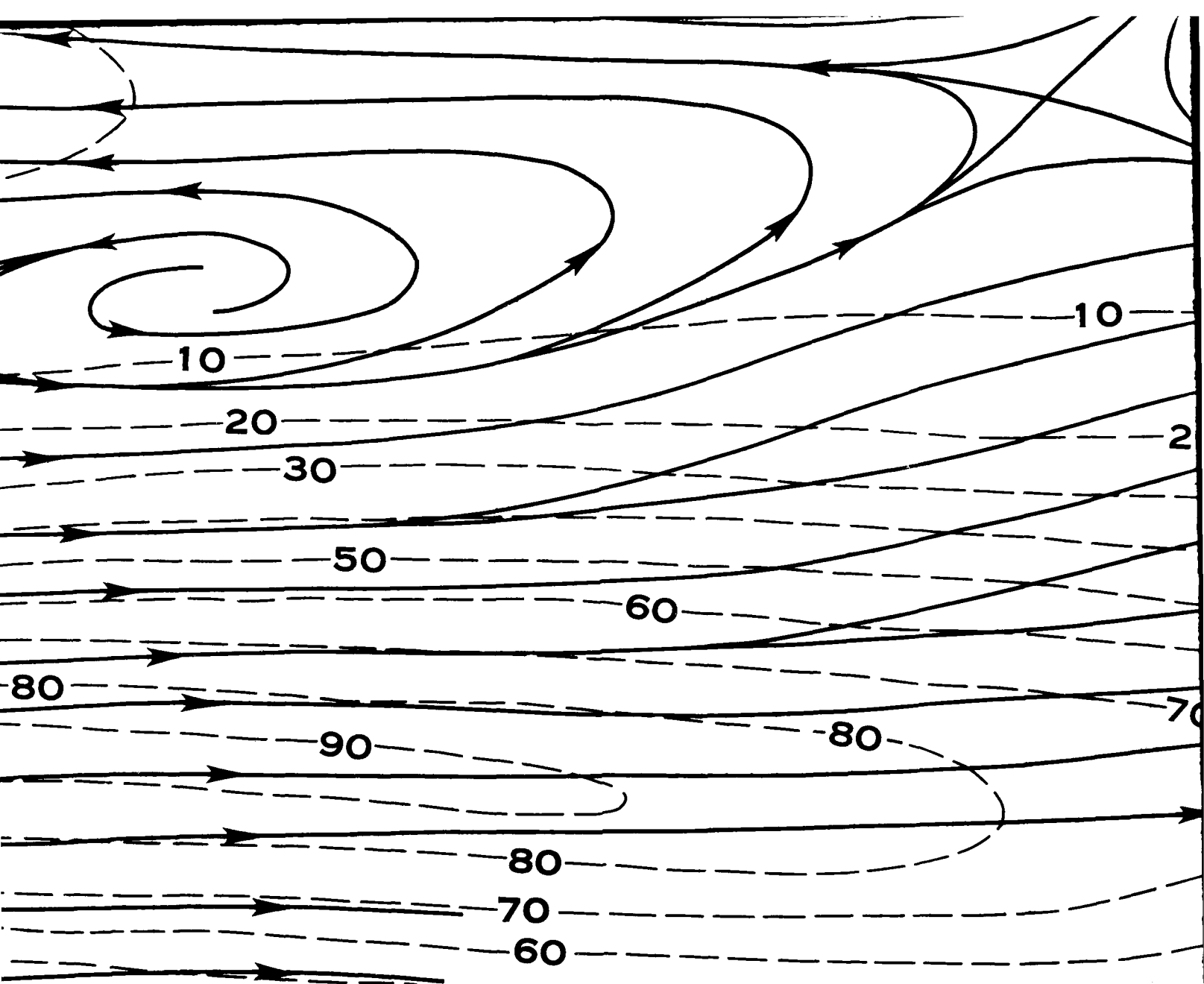




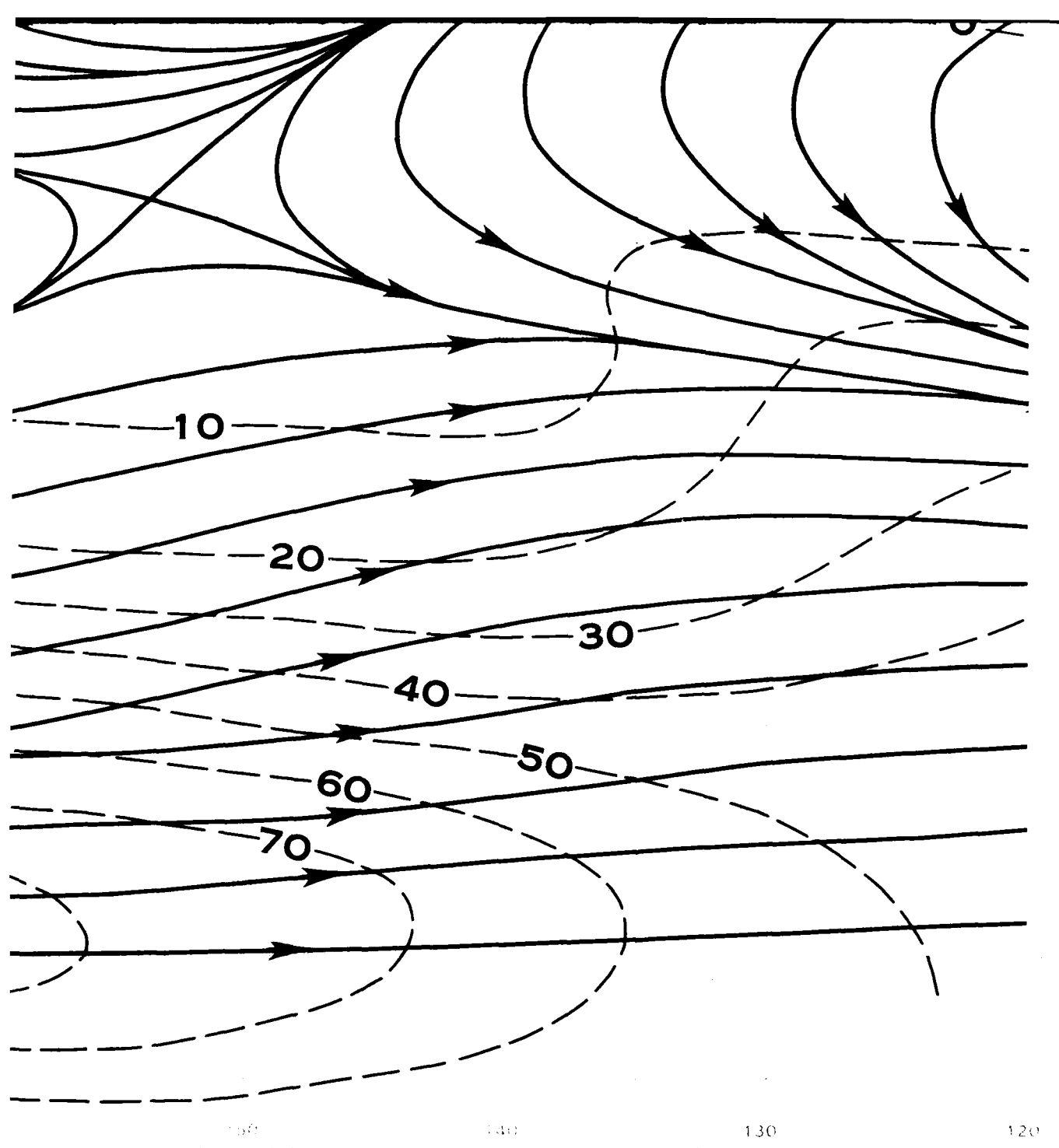




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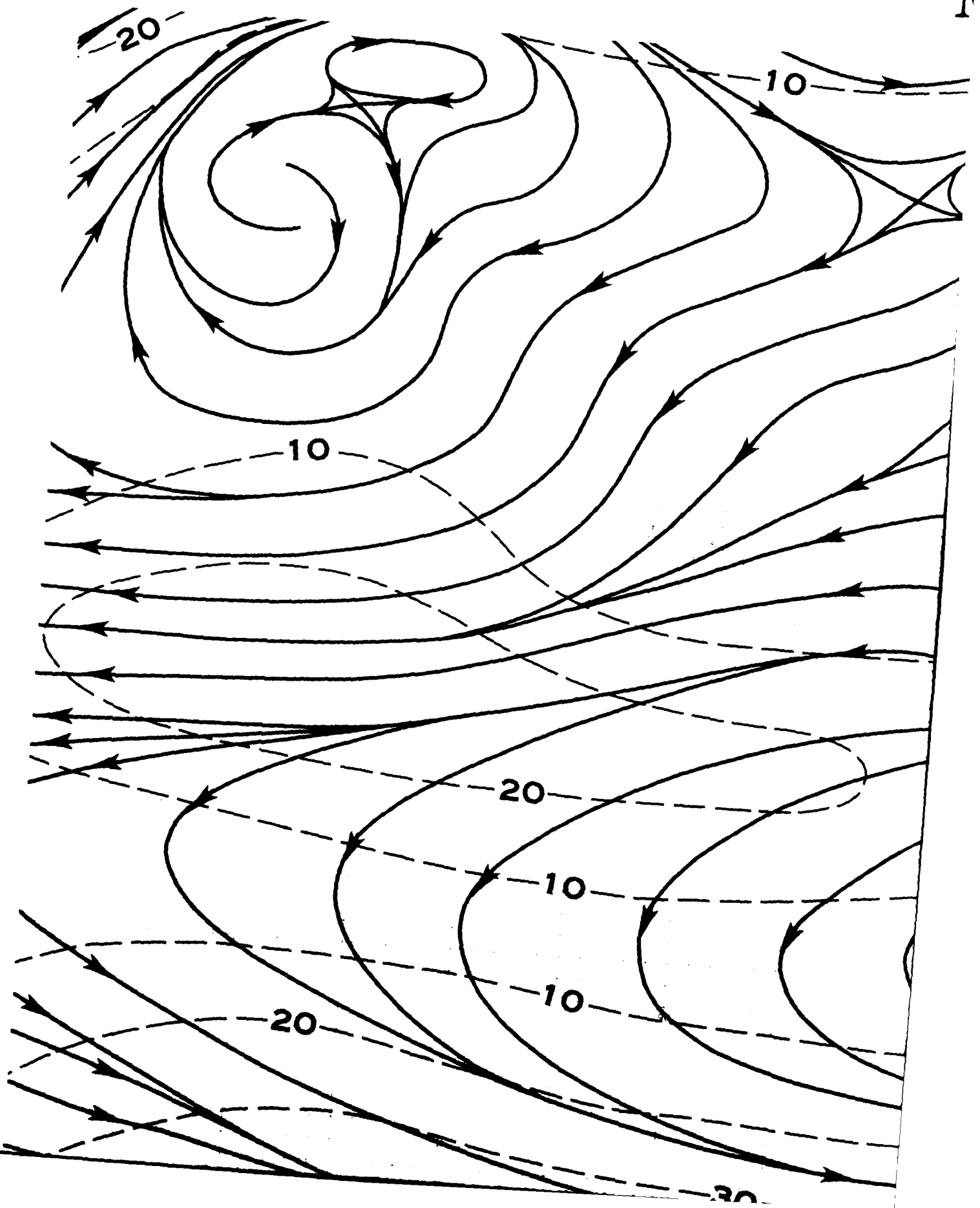


(9)

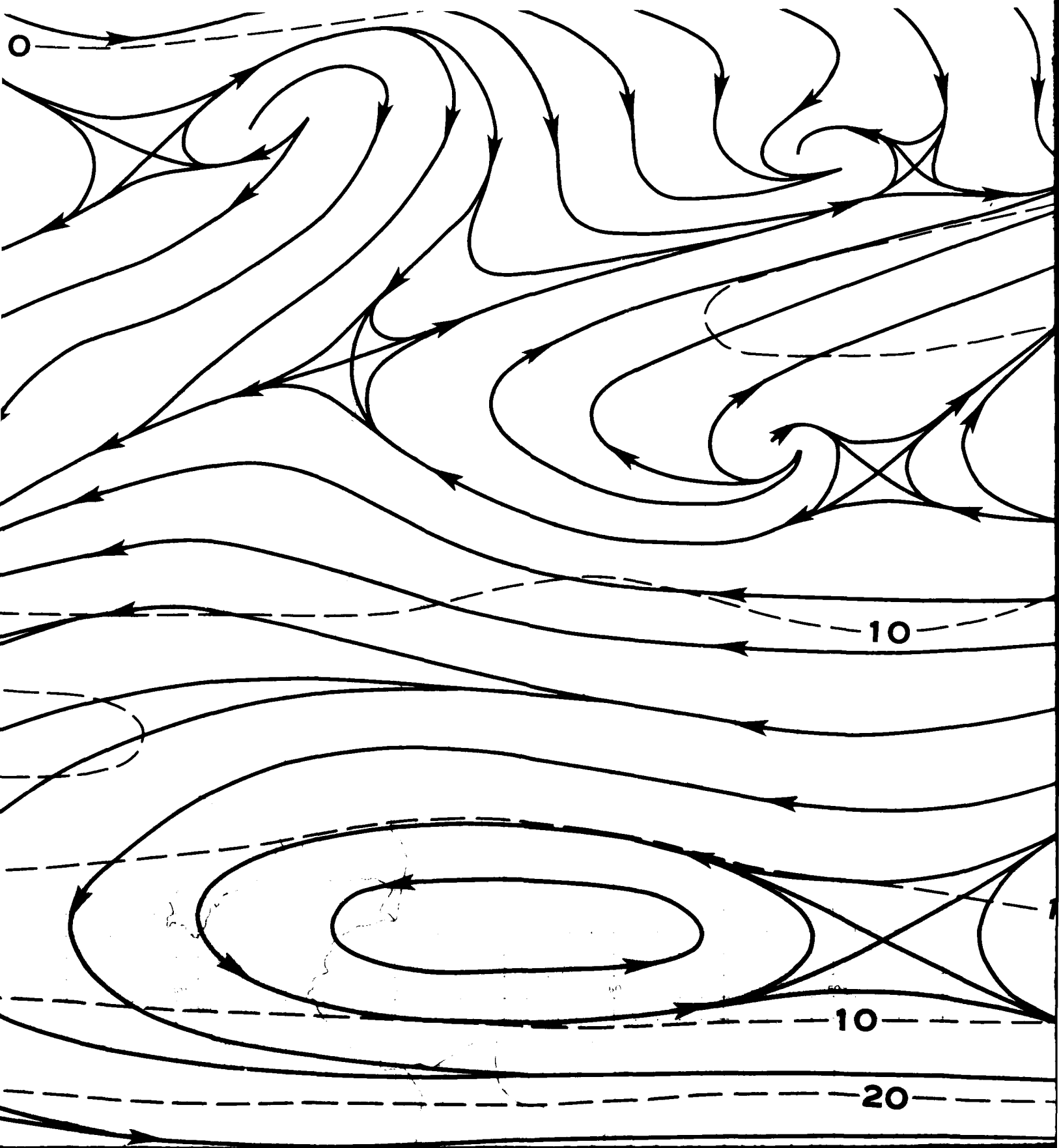


MULW-307E

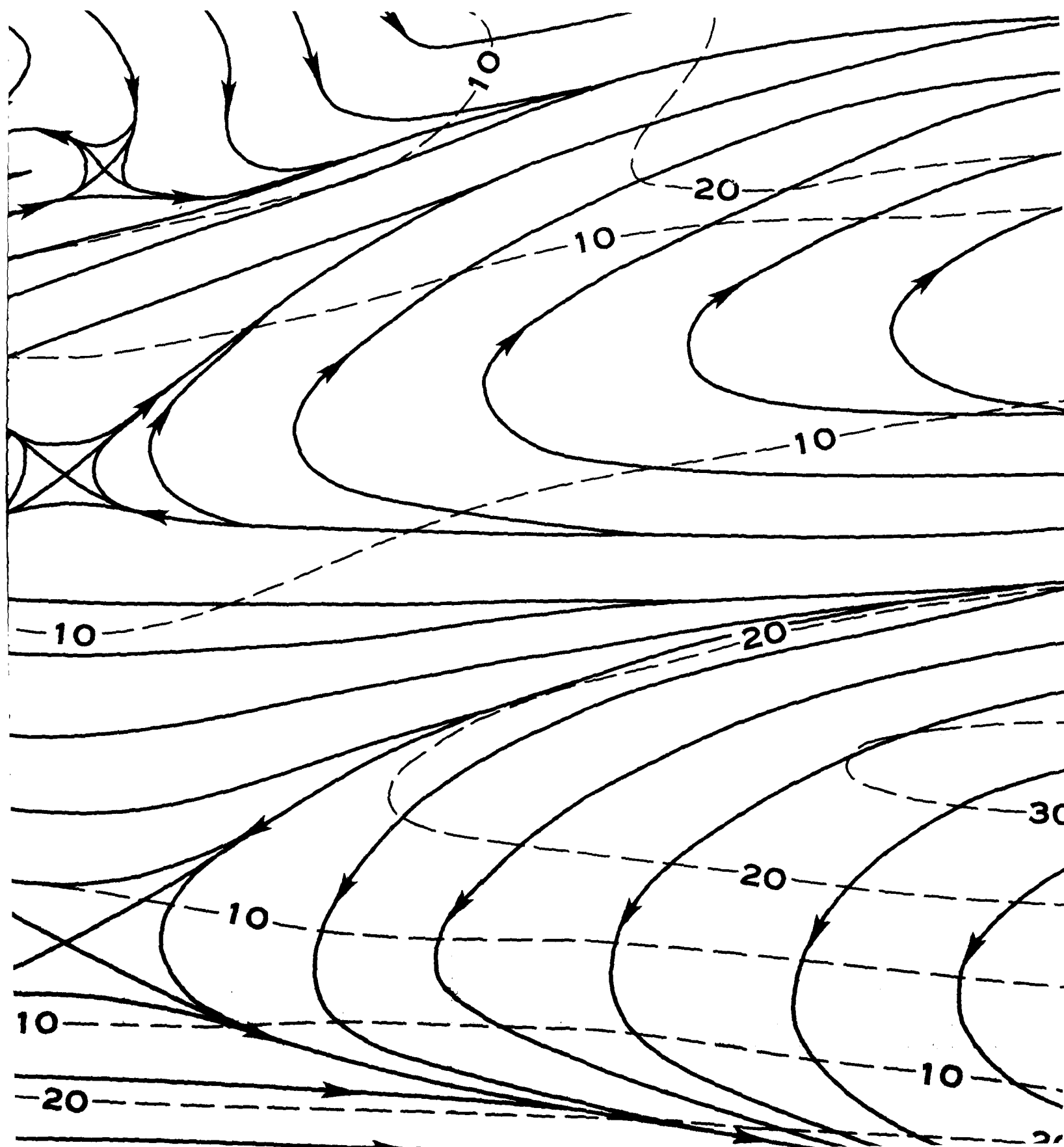
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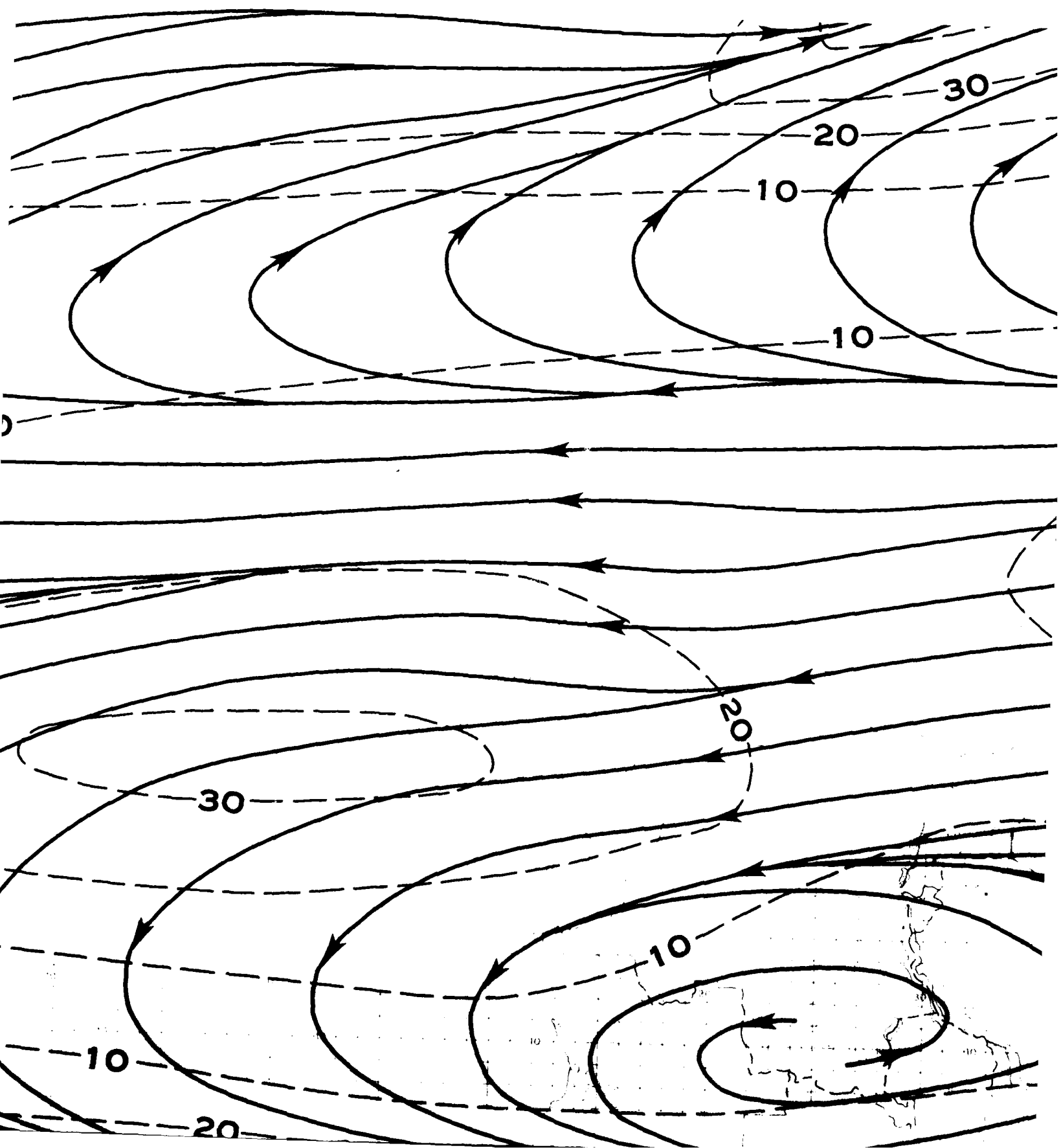
# MEAN UPPER LEVEL WINDS

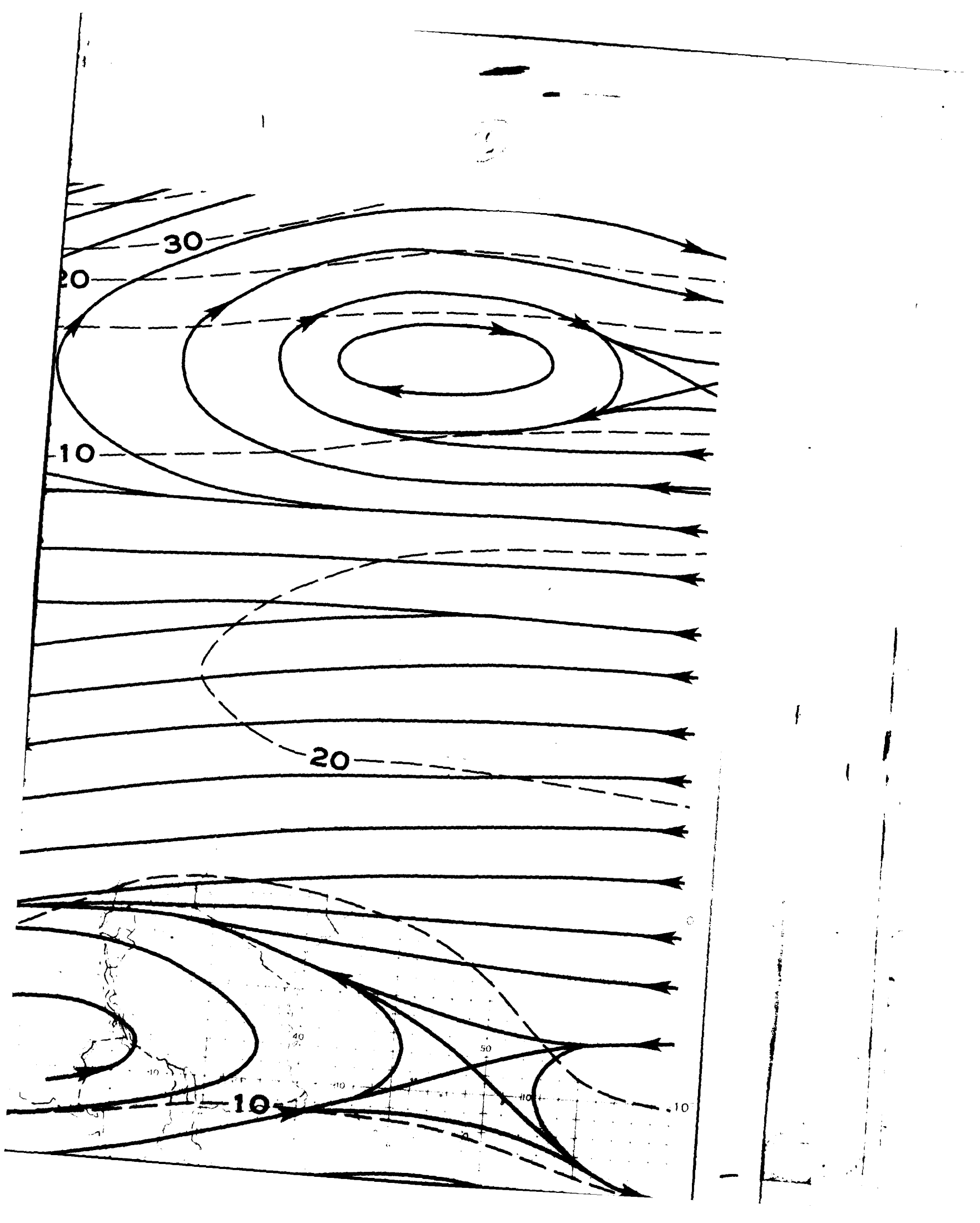


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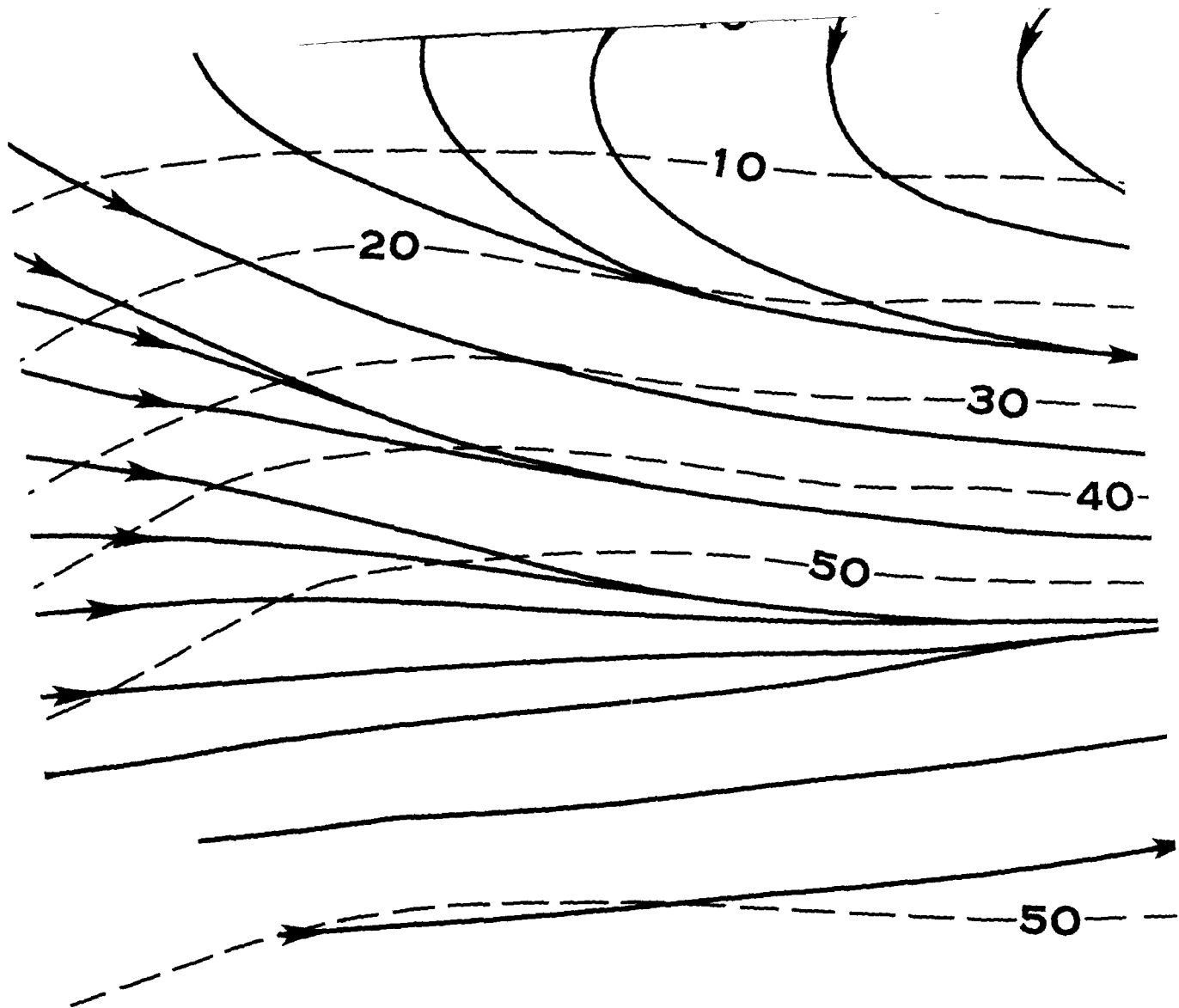


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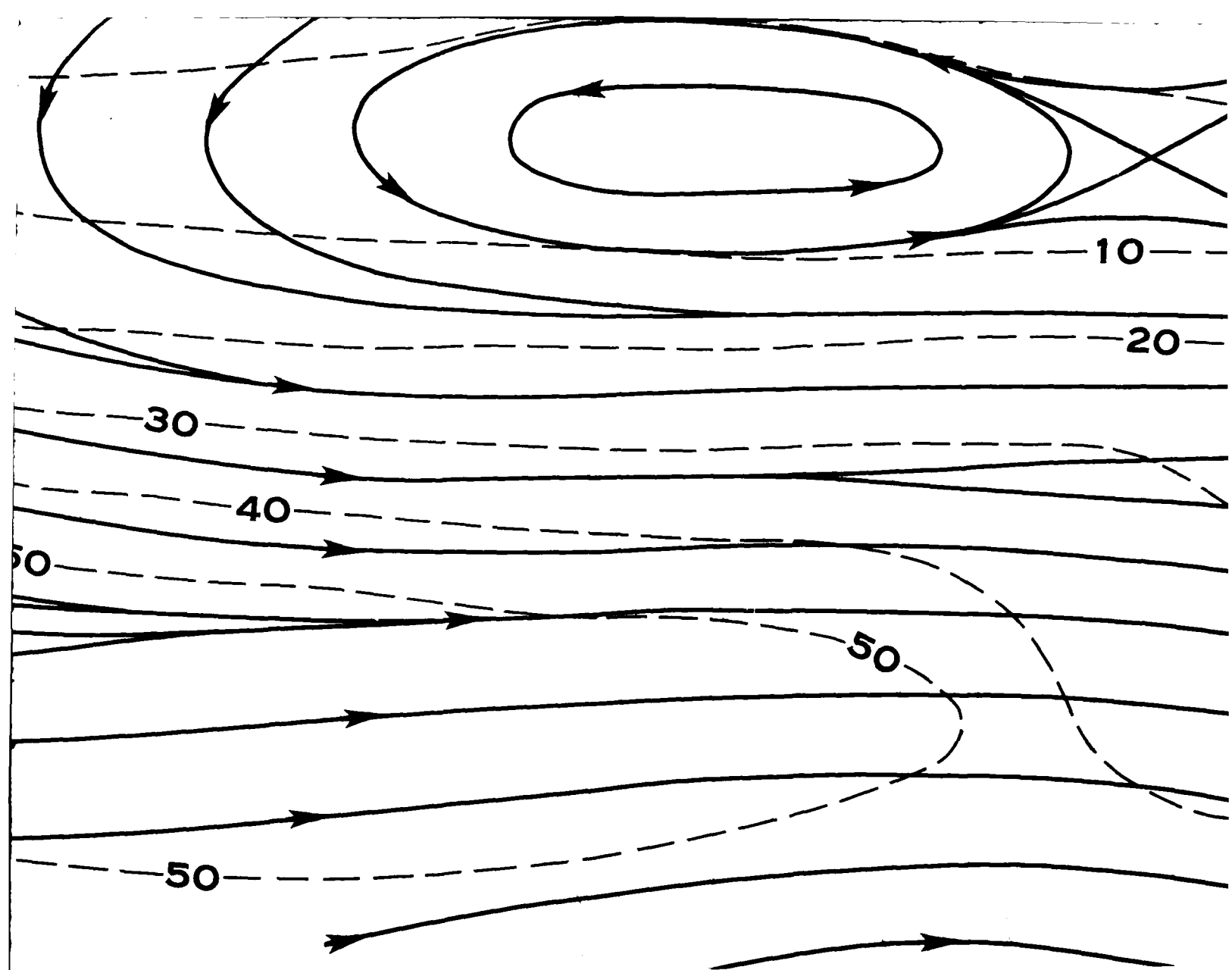




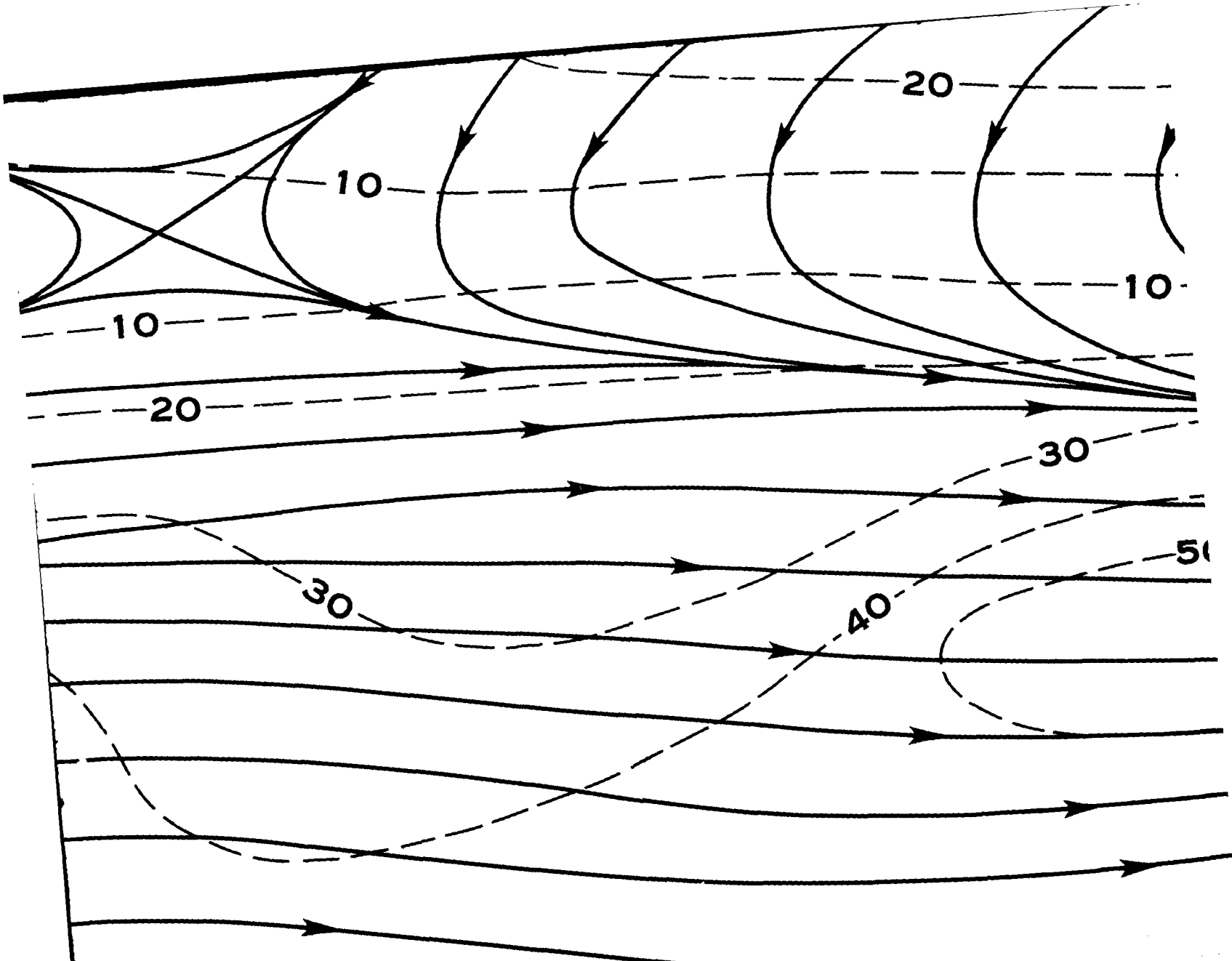




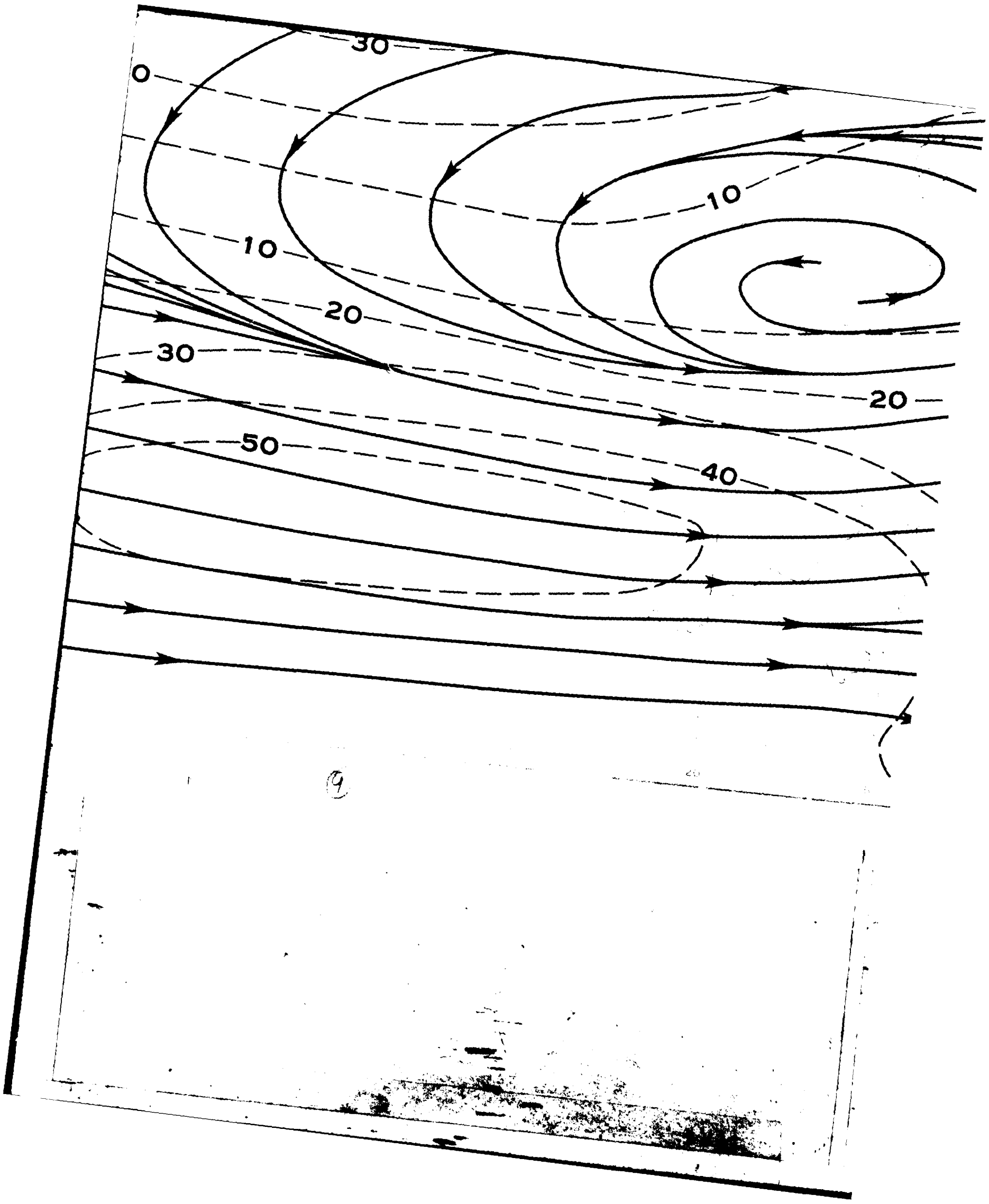
(6)

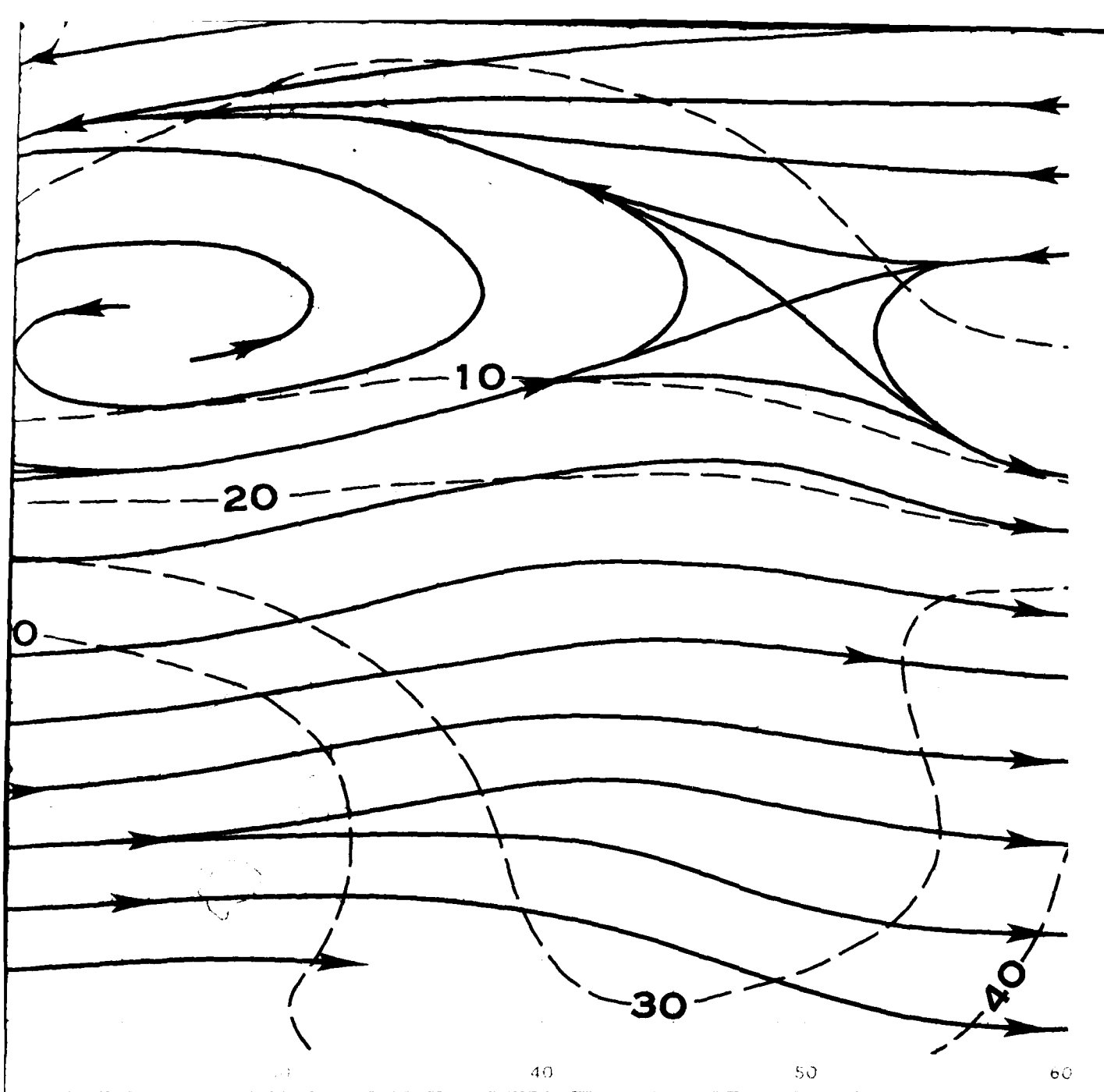


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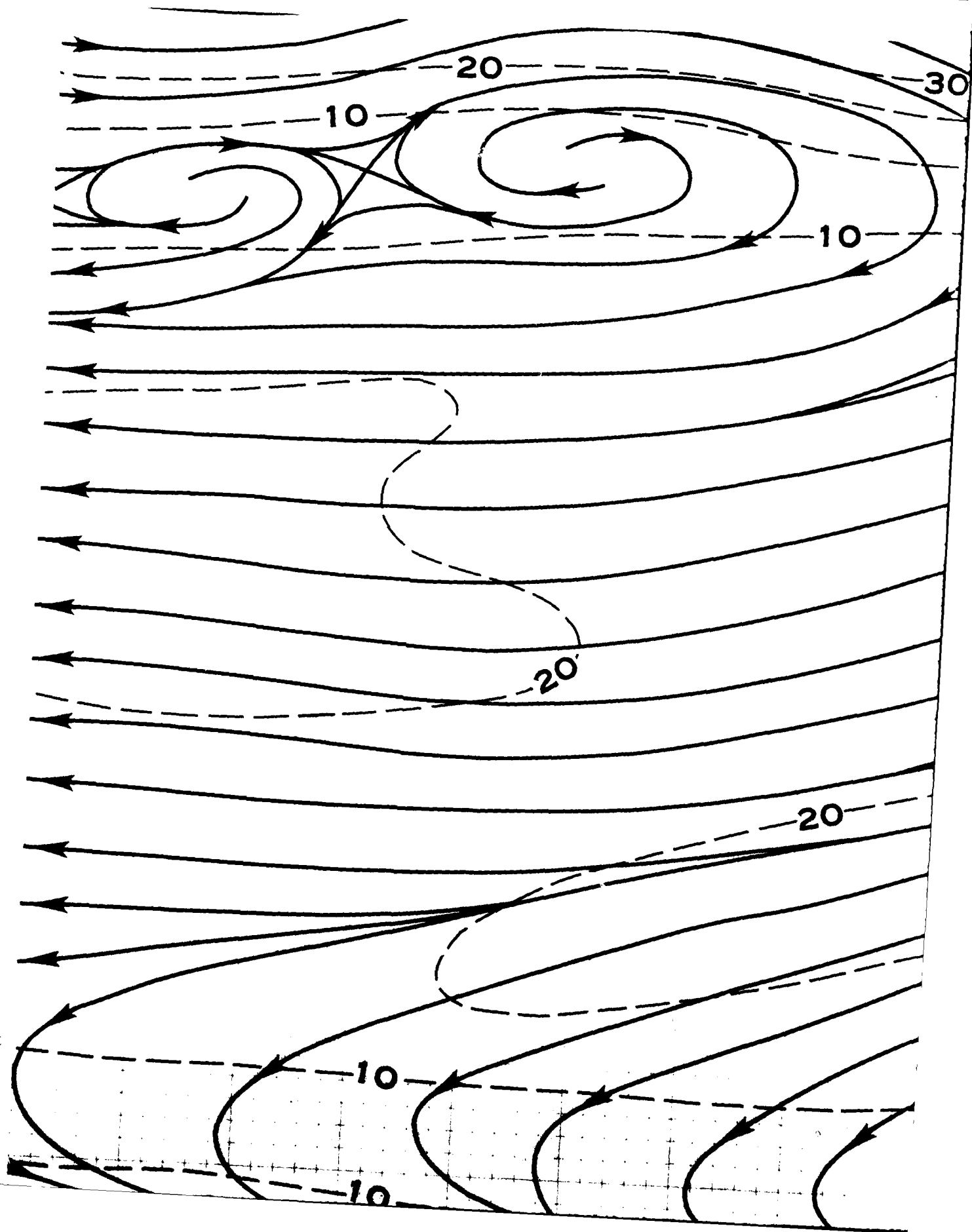
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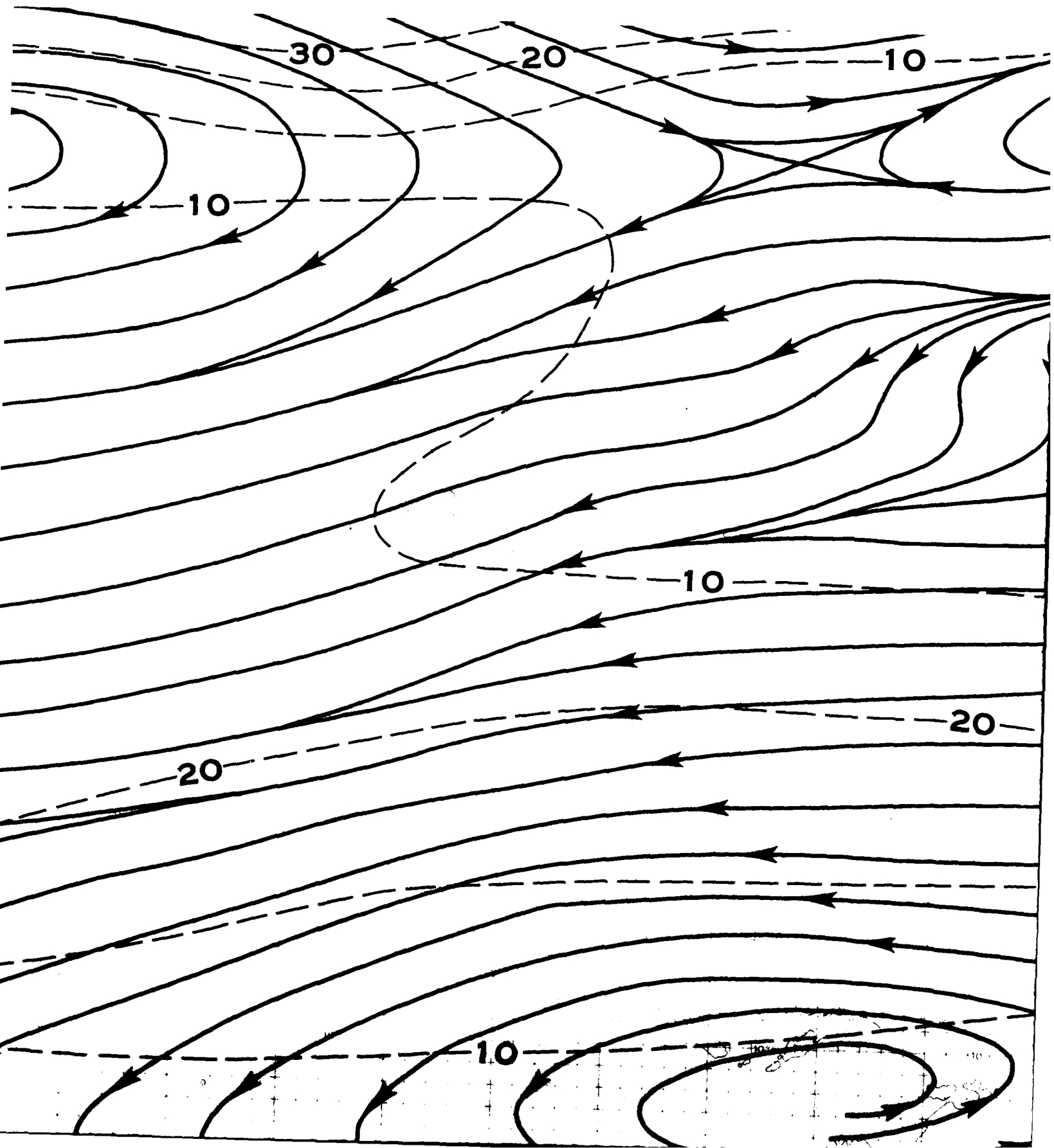


MULW-308W

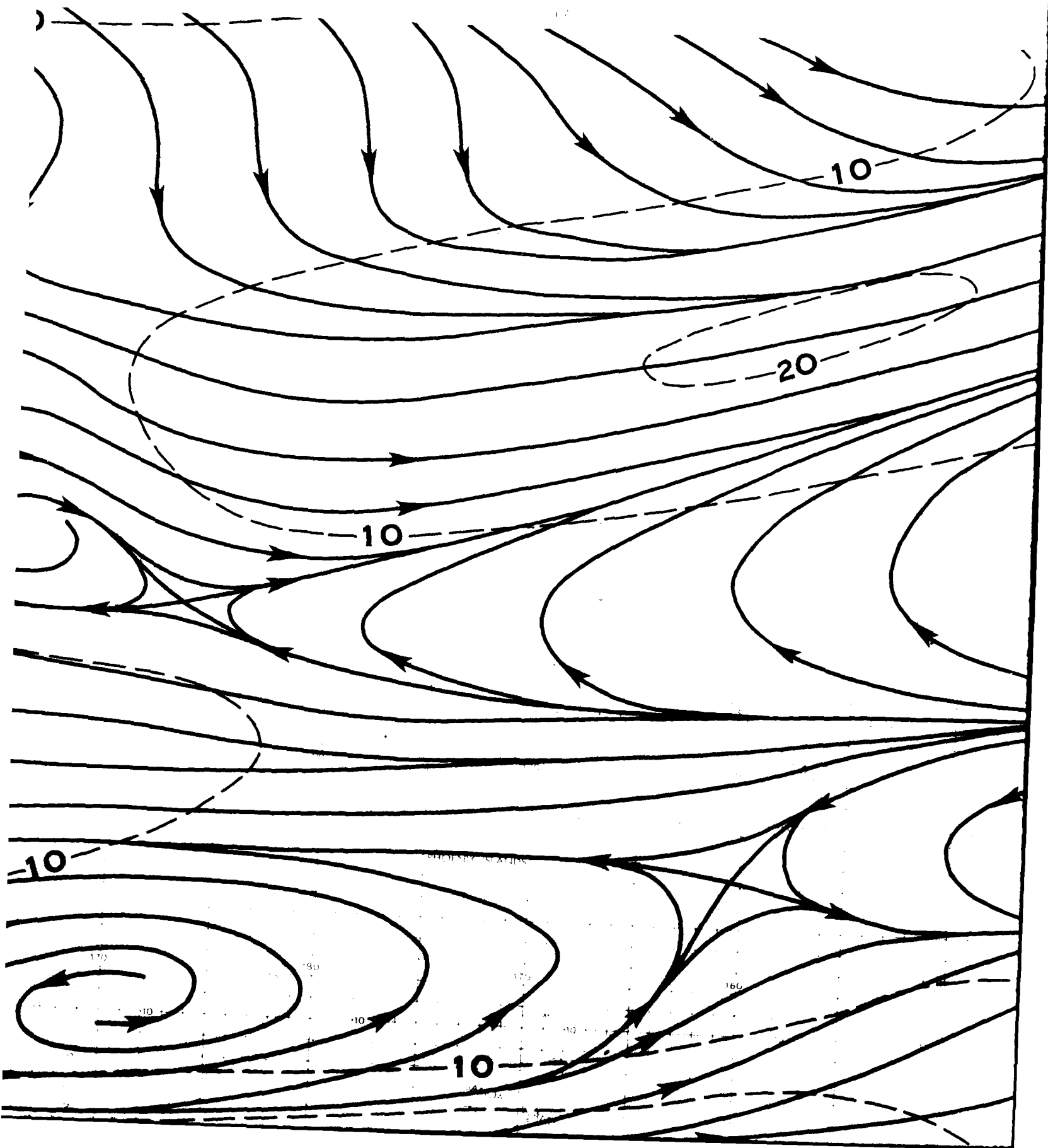
(10)



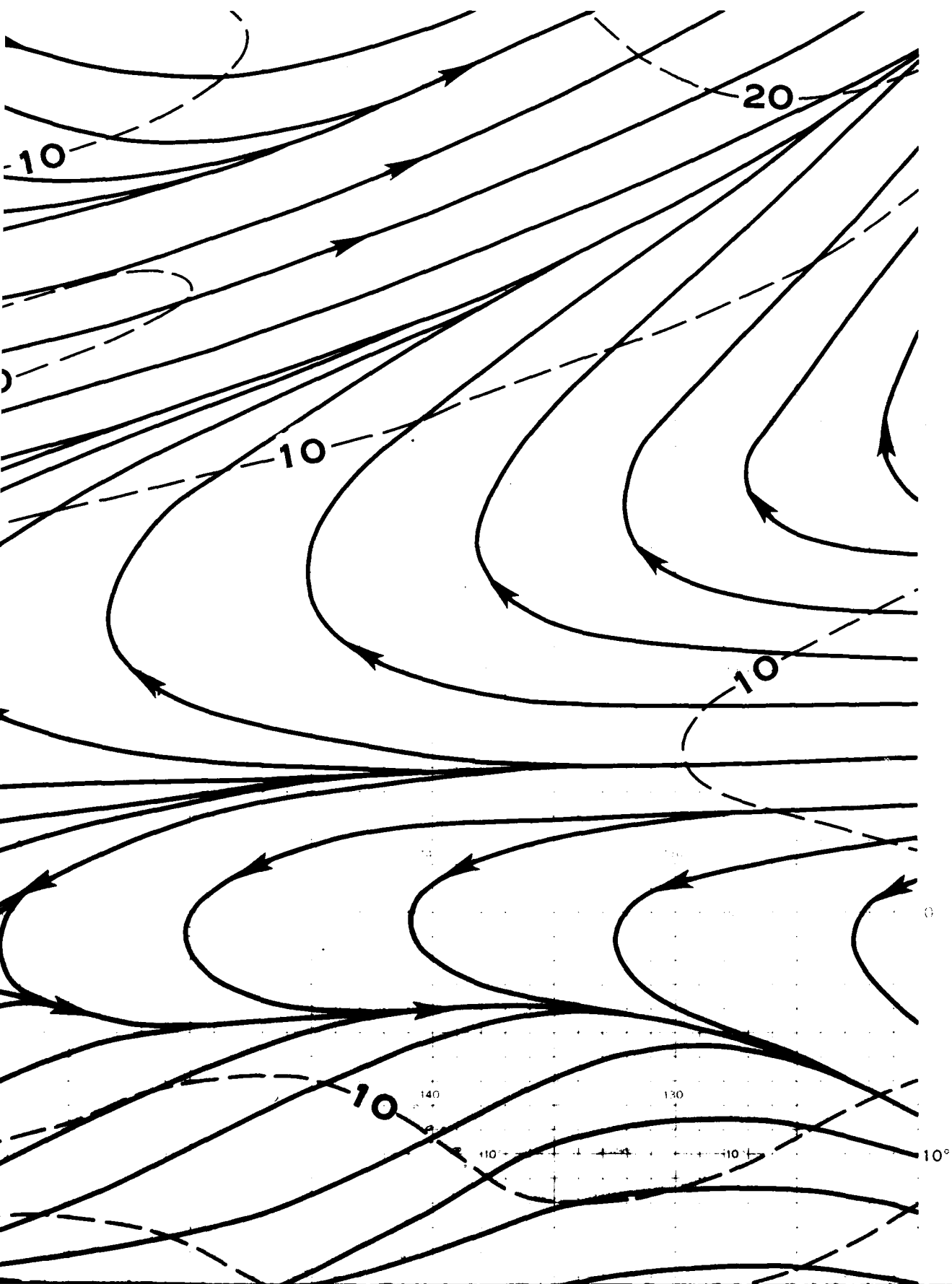
# MEAN UPPER LEVEL W

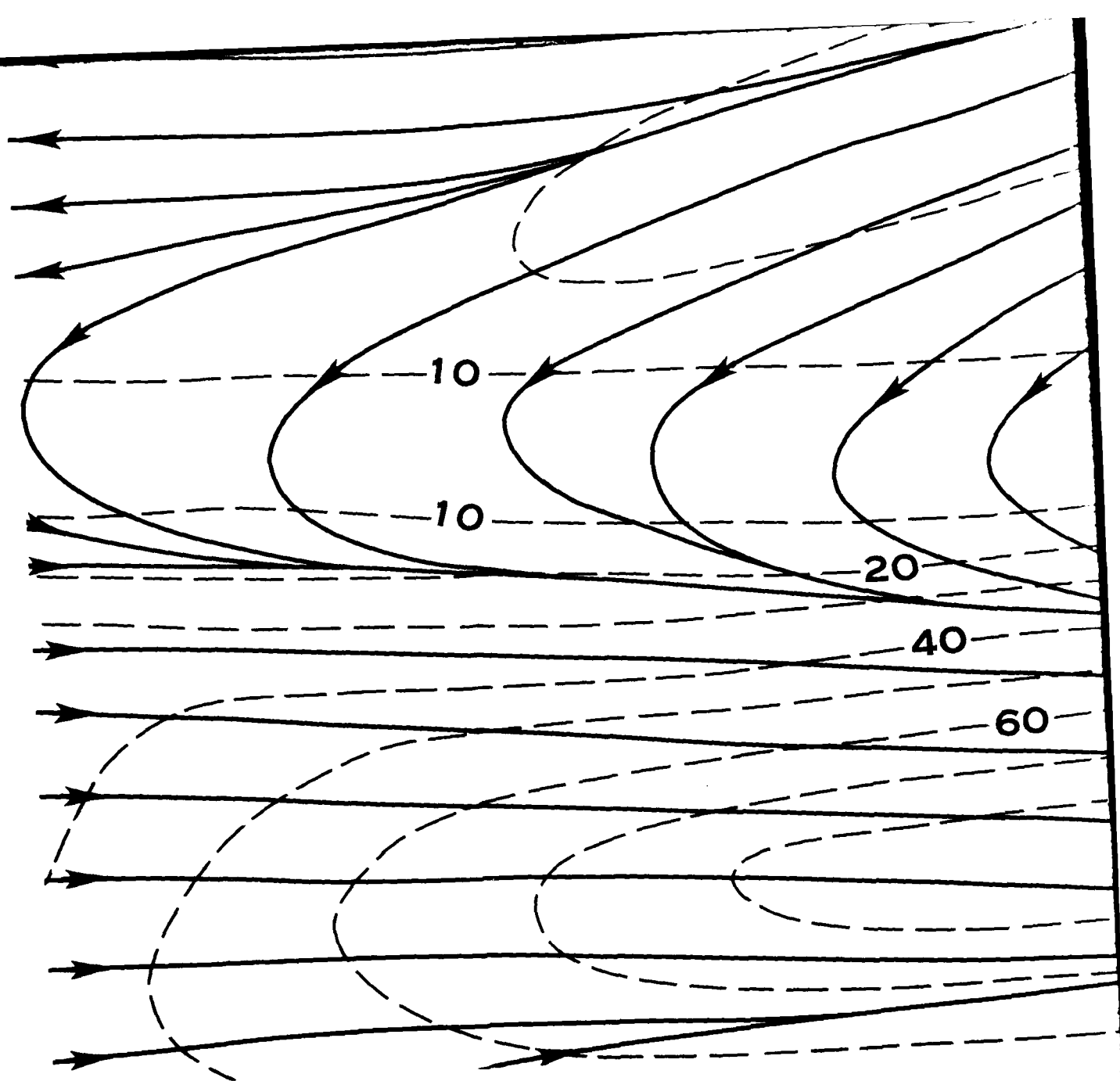


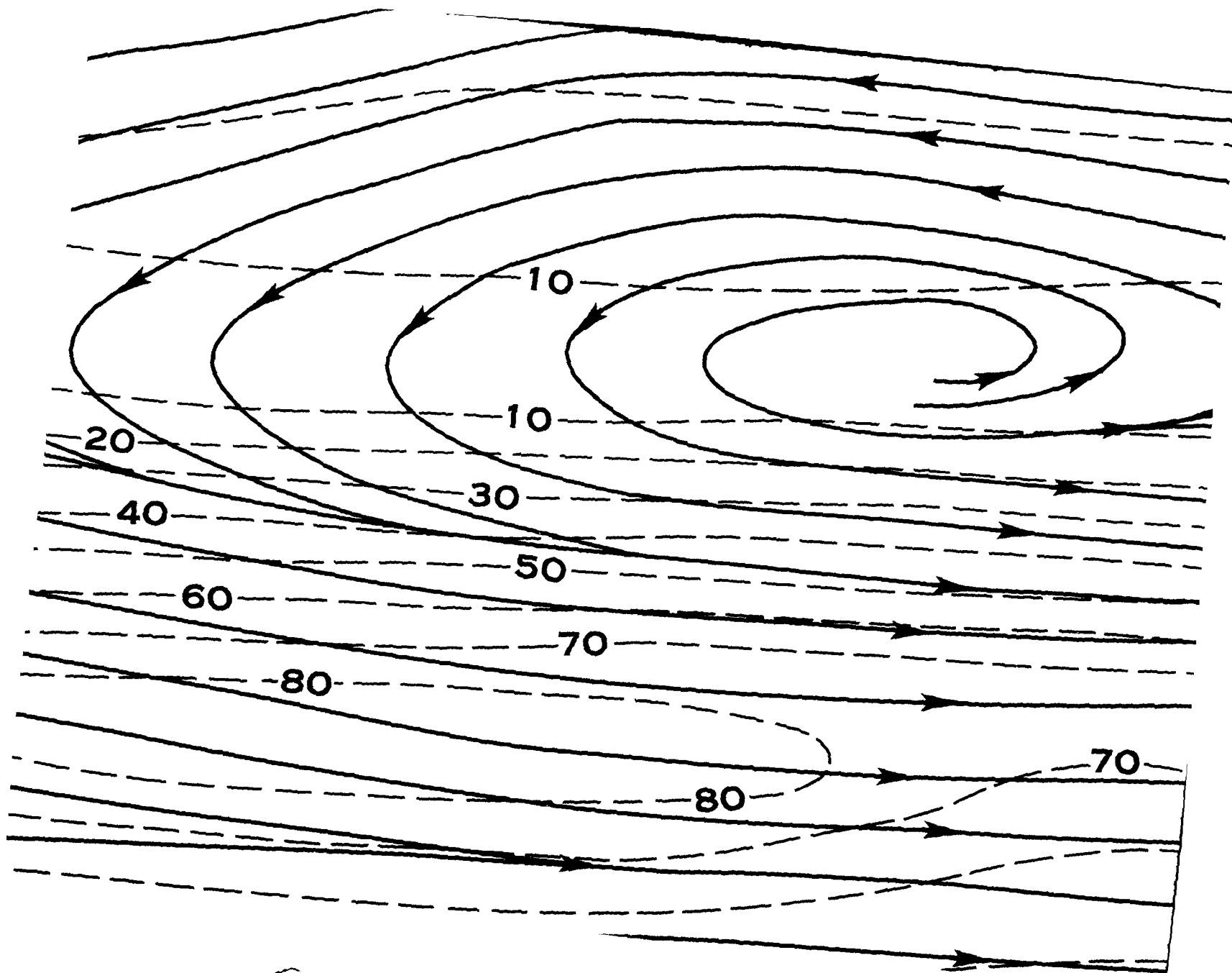
# OPICS - AUGUST 300mb



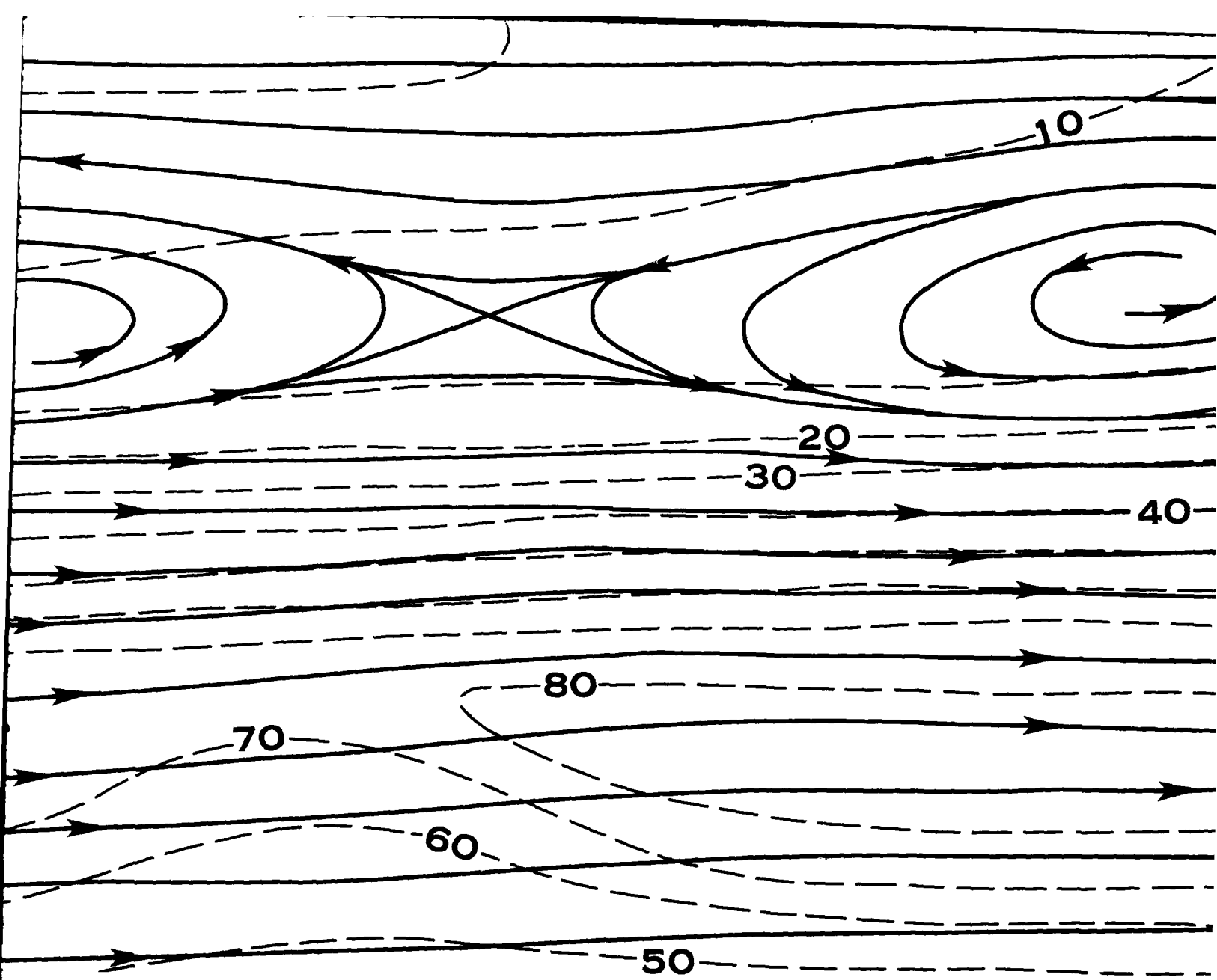


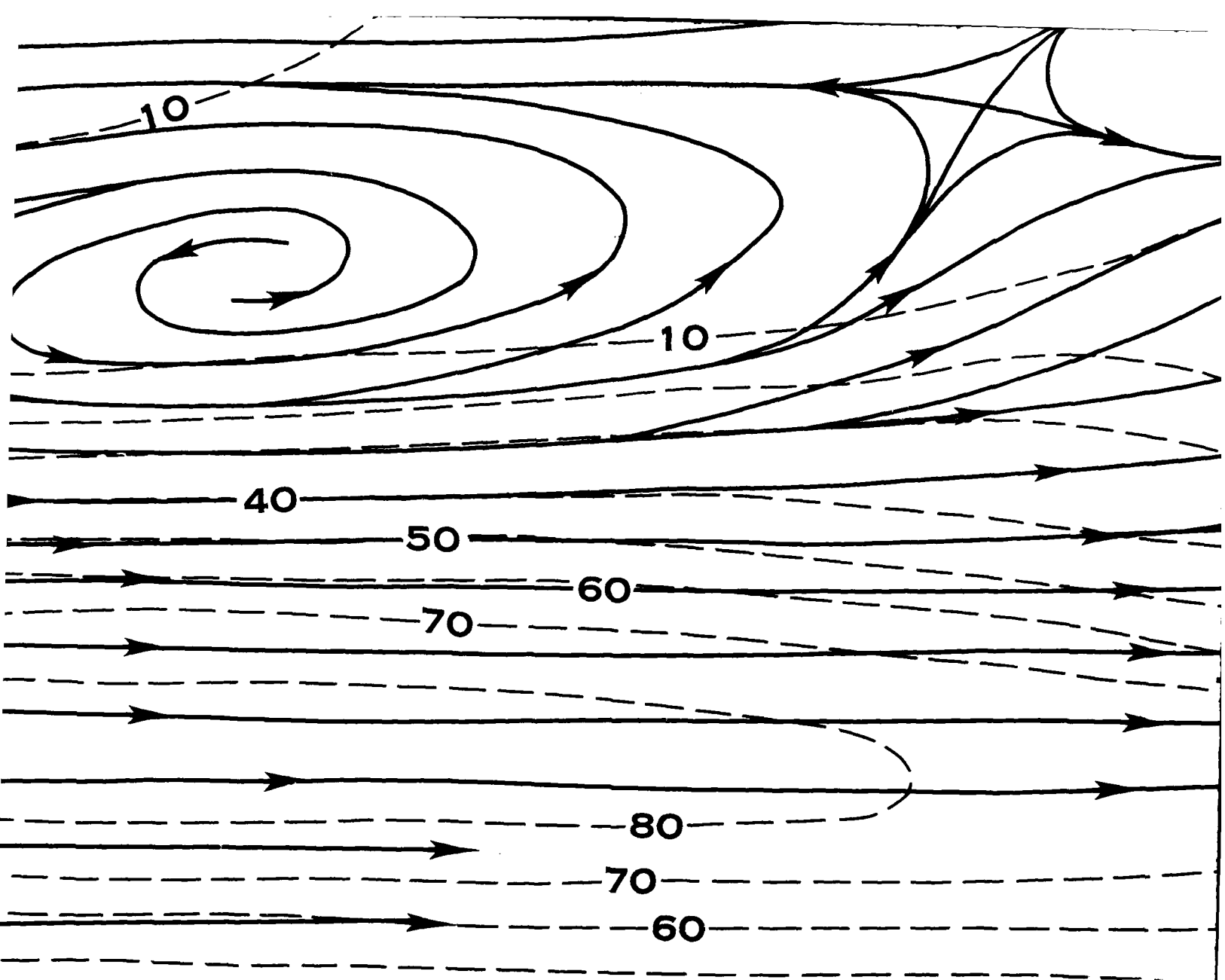




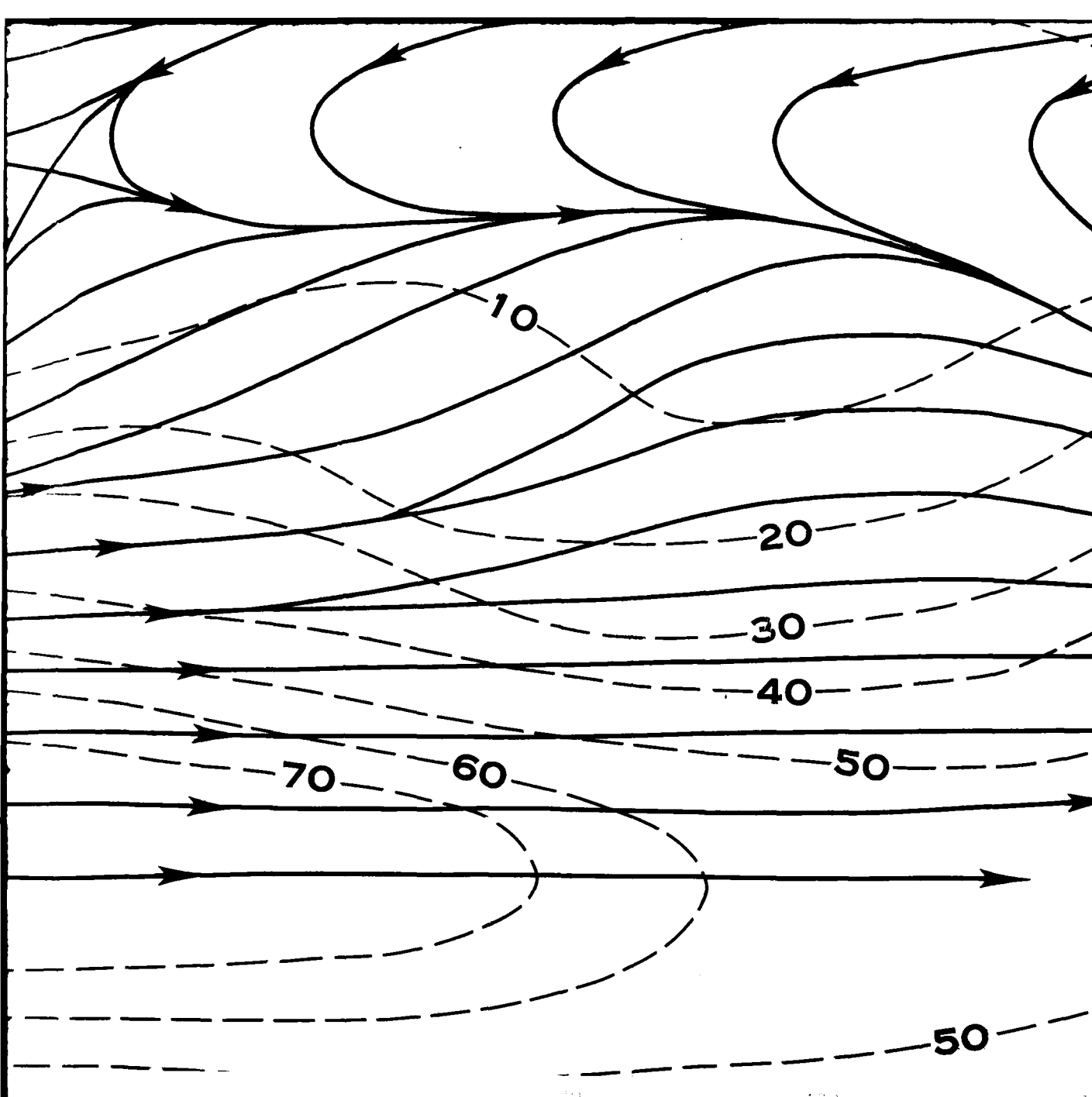


1 (7)





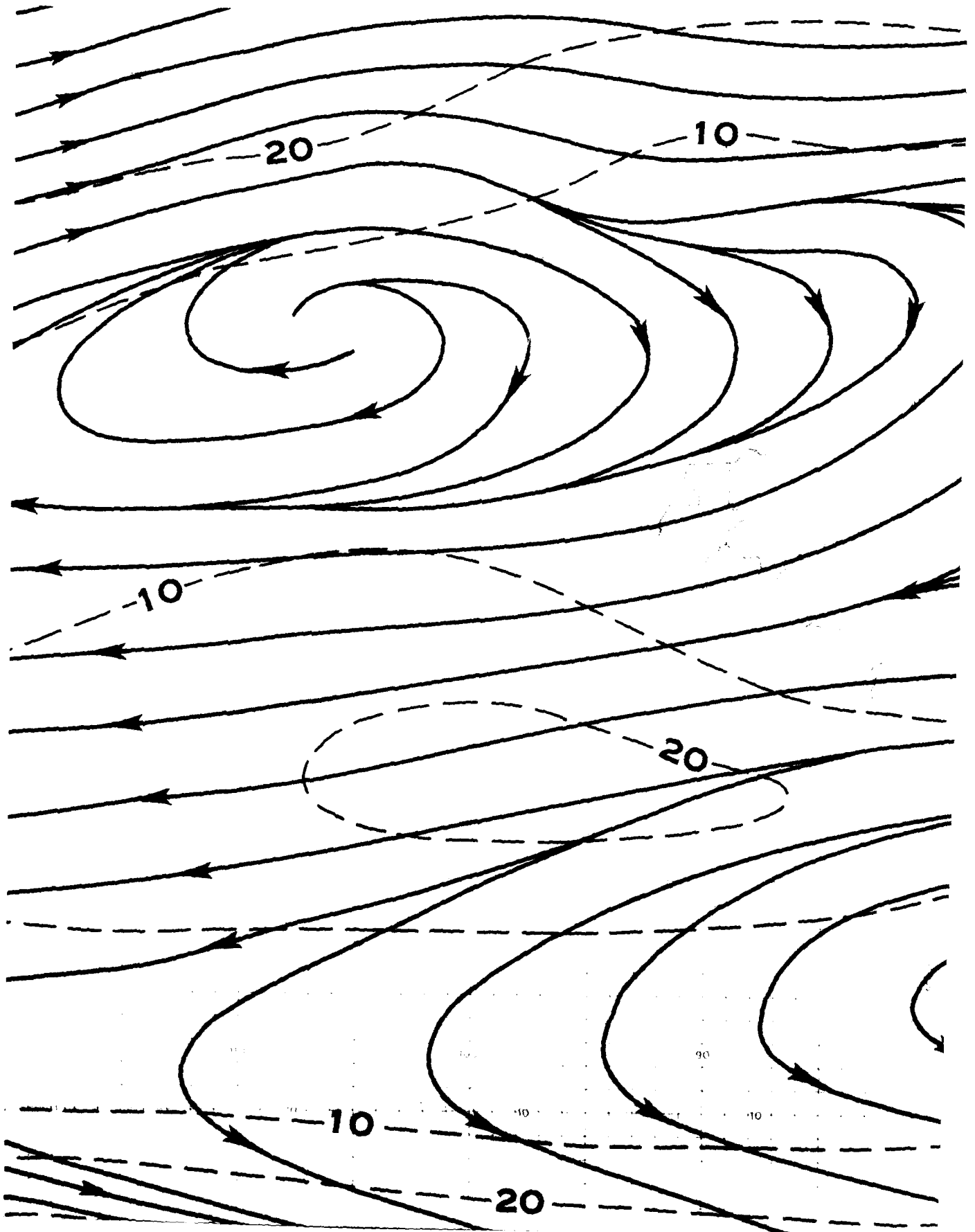
9



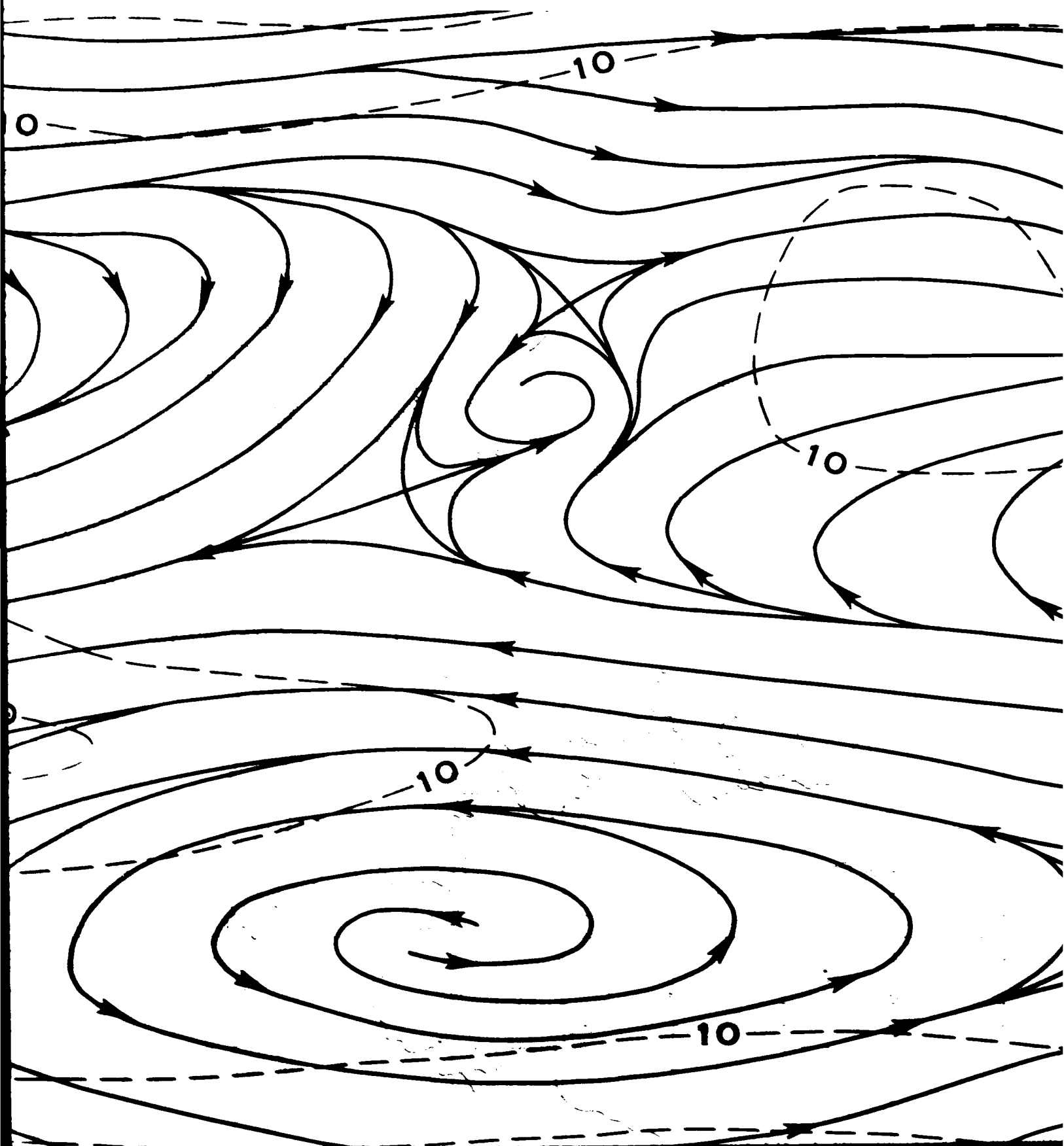
(10)

MULW-308E

M

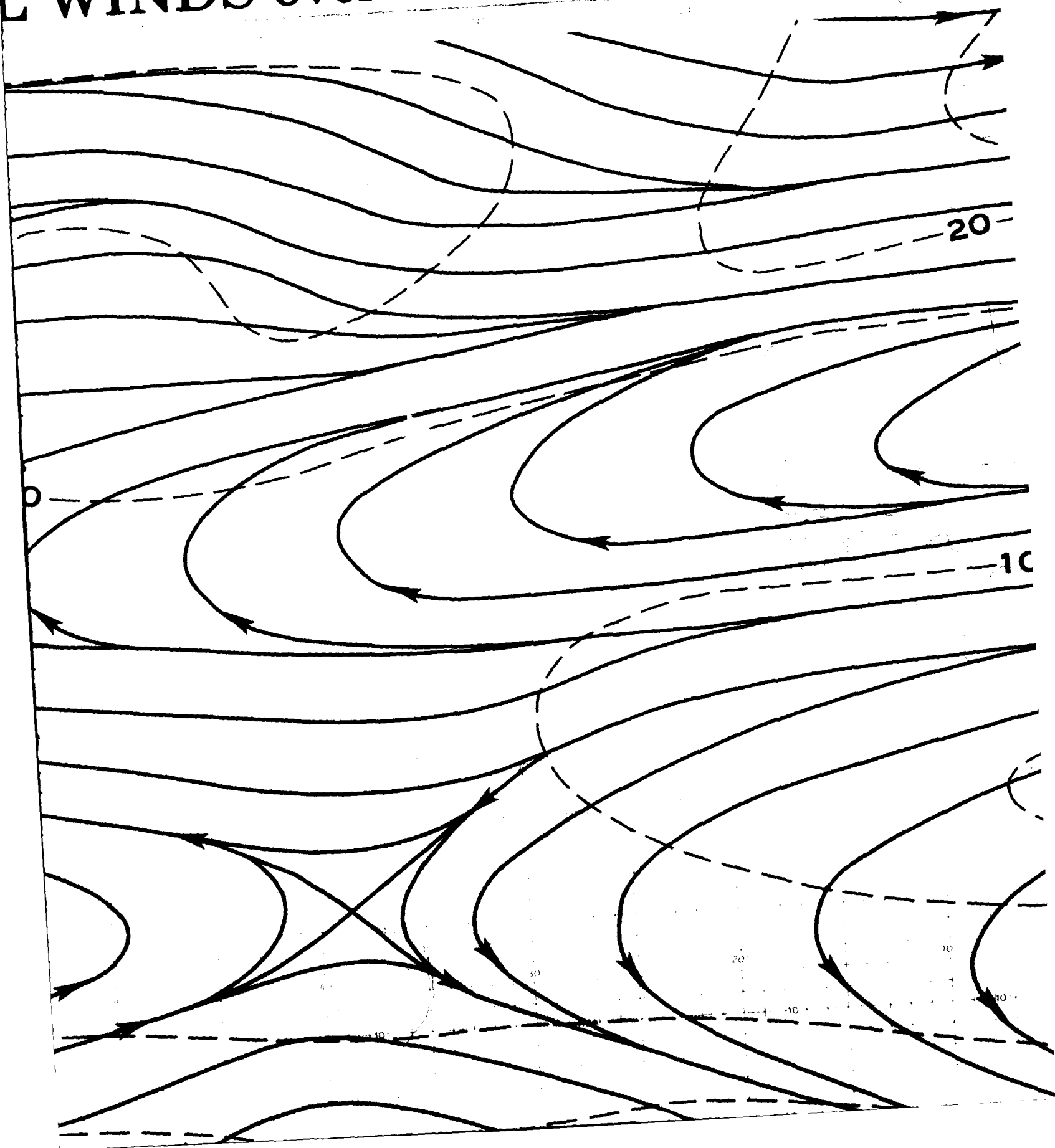


# MEAN UPPER LEVEL WIND

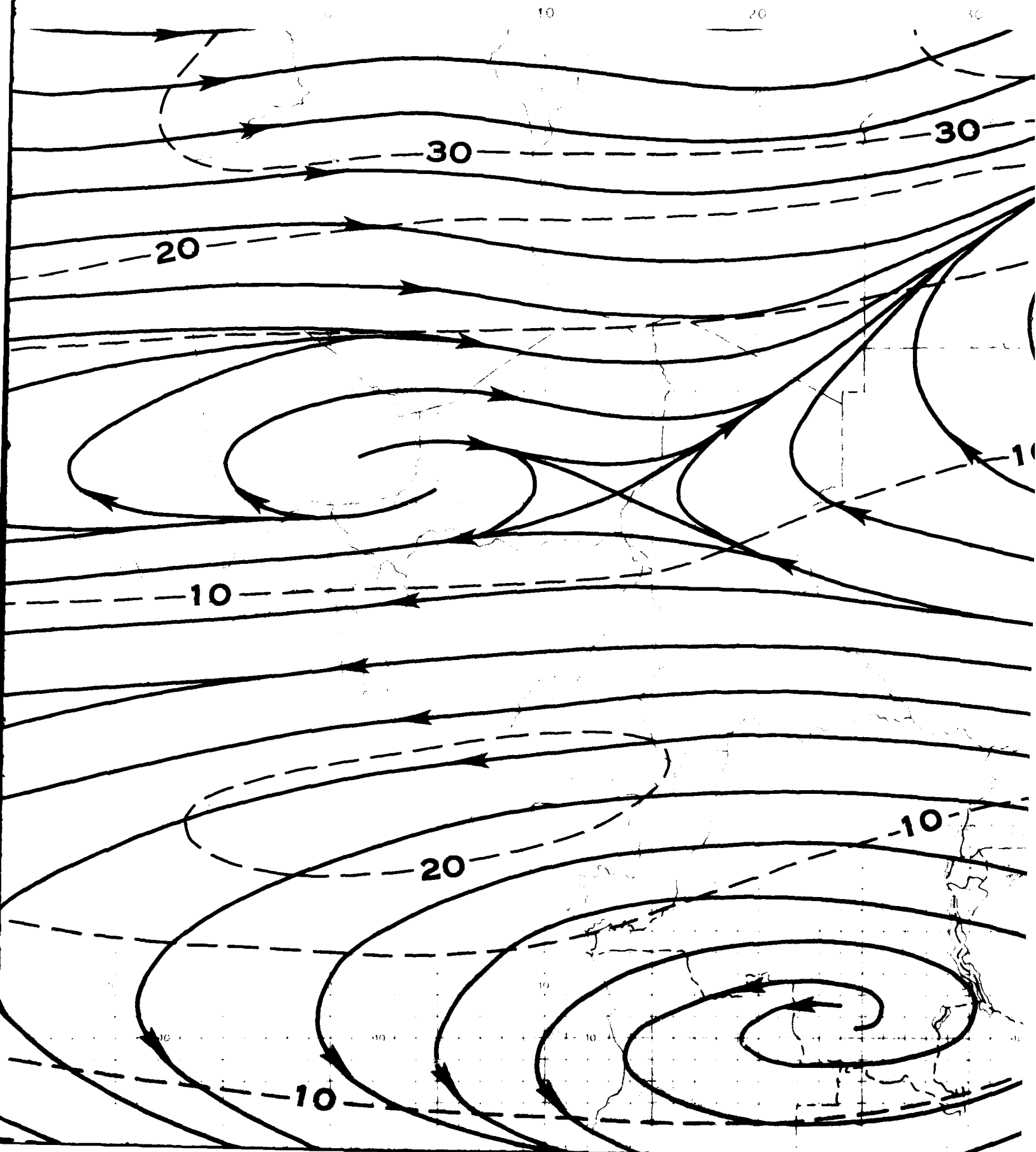


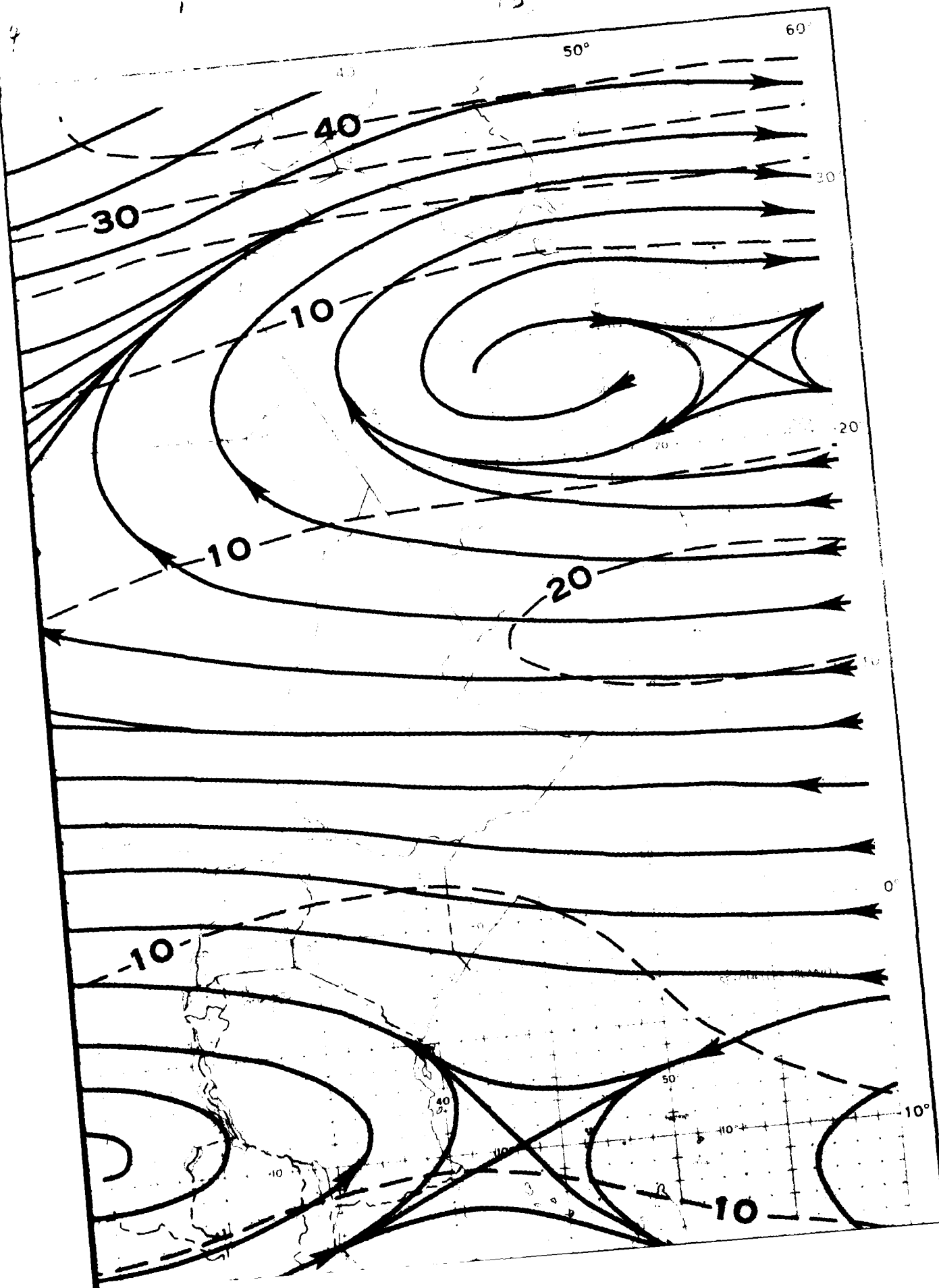


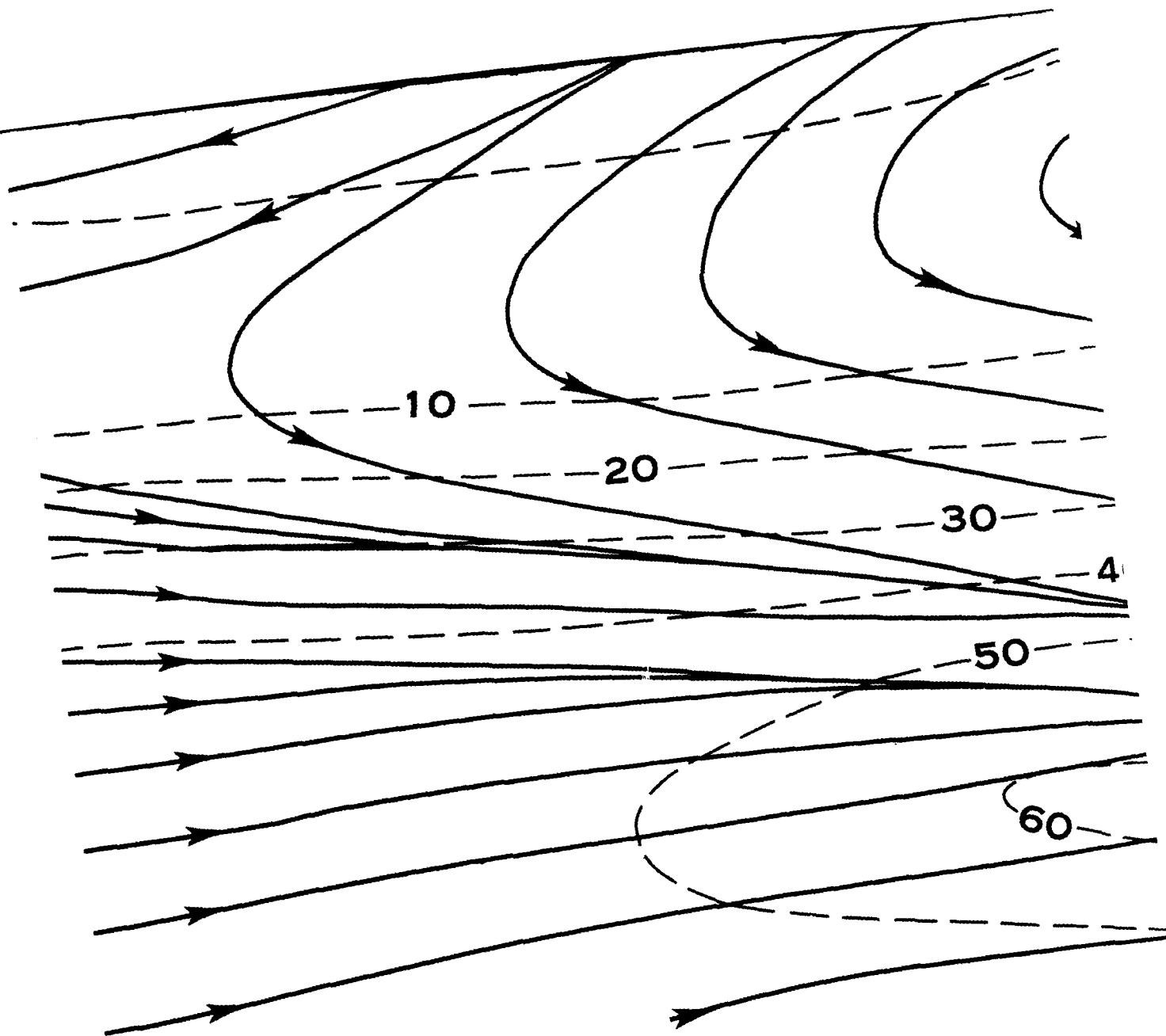
# L<sup>2</sup> WINDS over GLOBAL TROPICS - 1



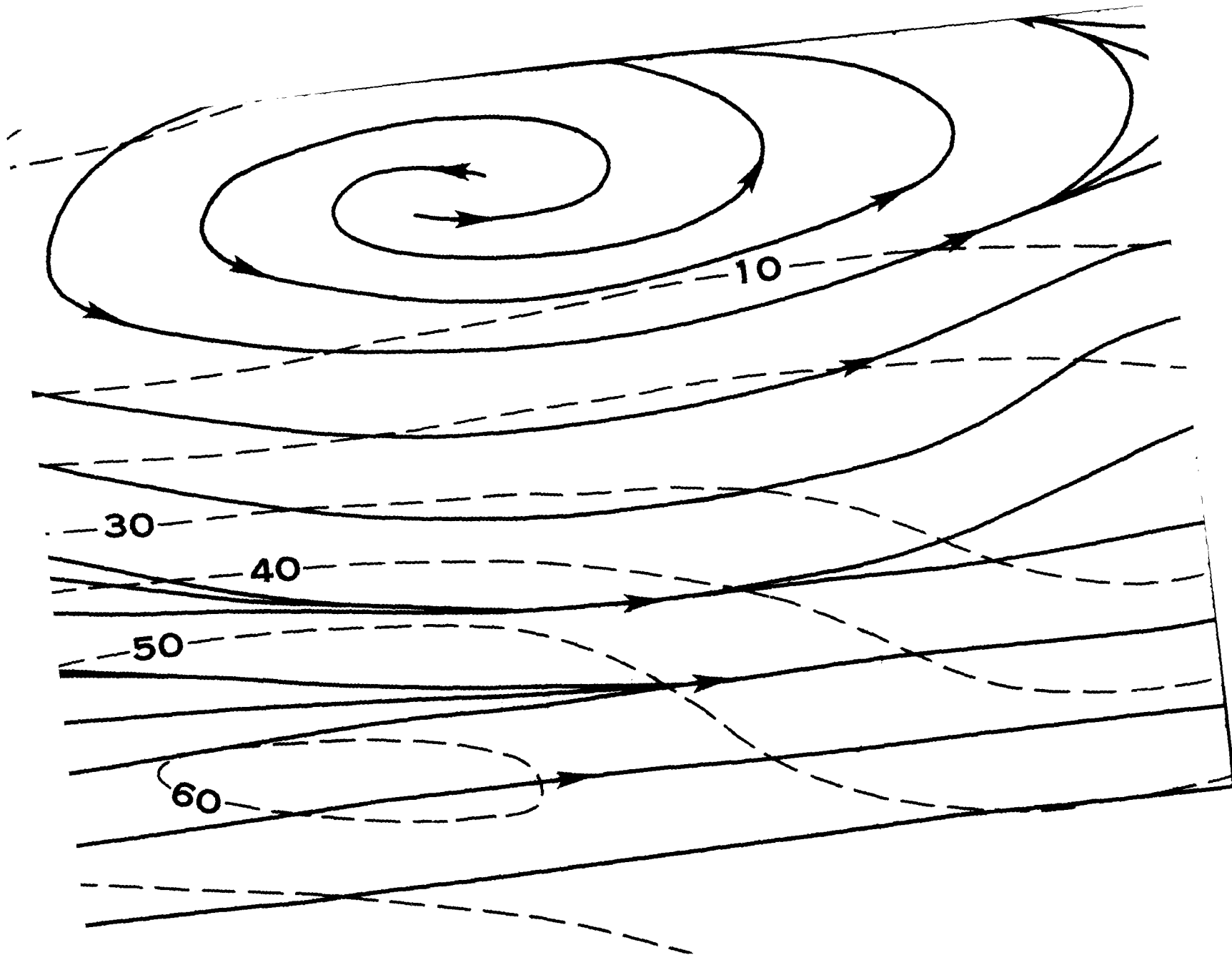
# PICS - SEPTEMBER 300 mb



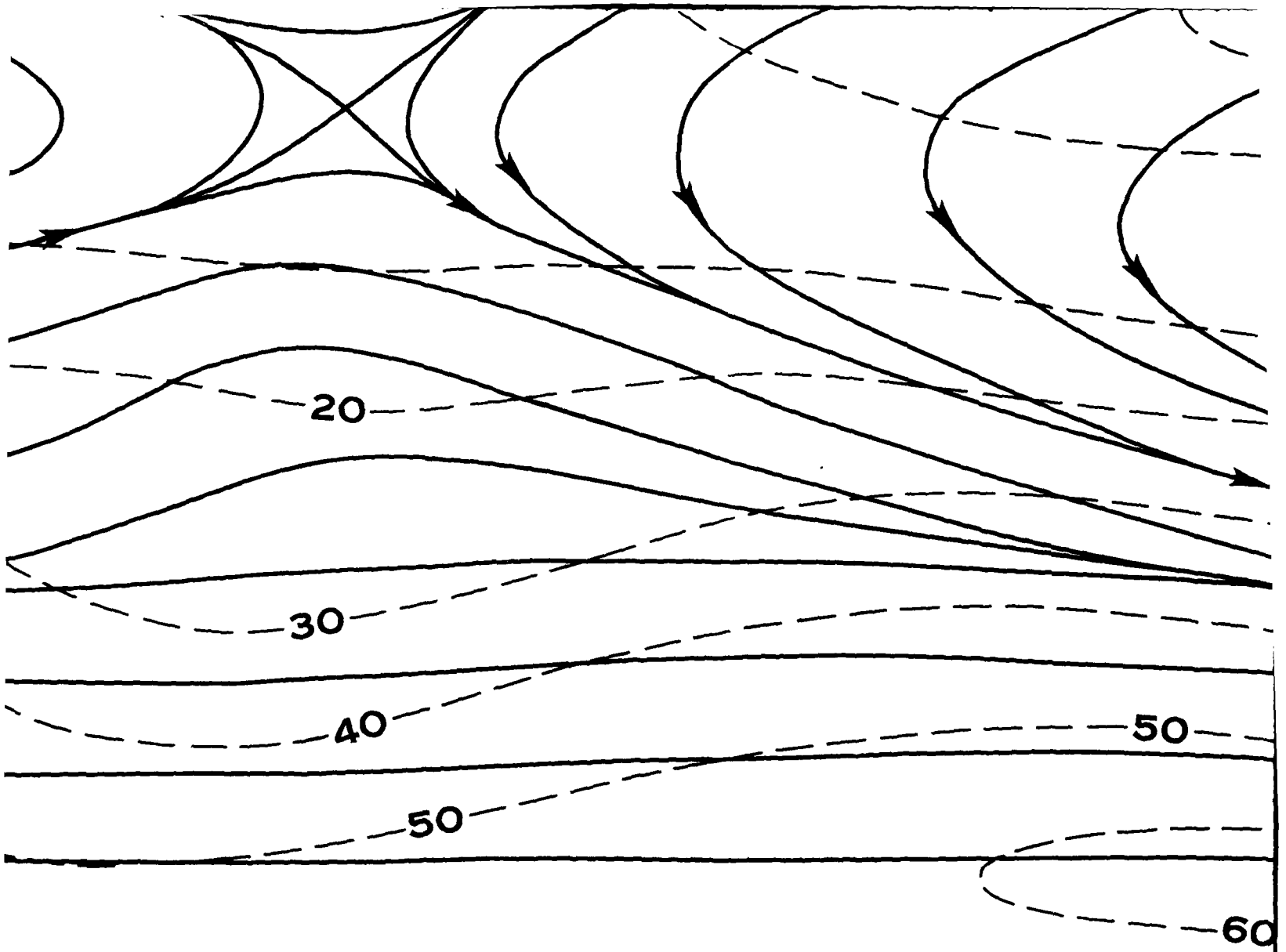




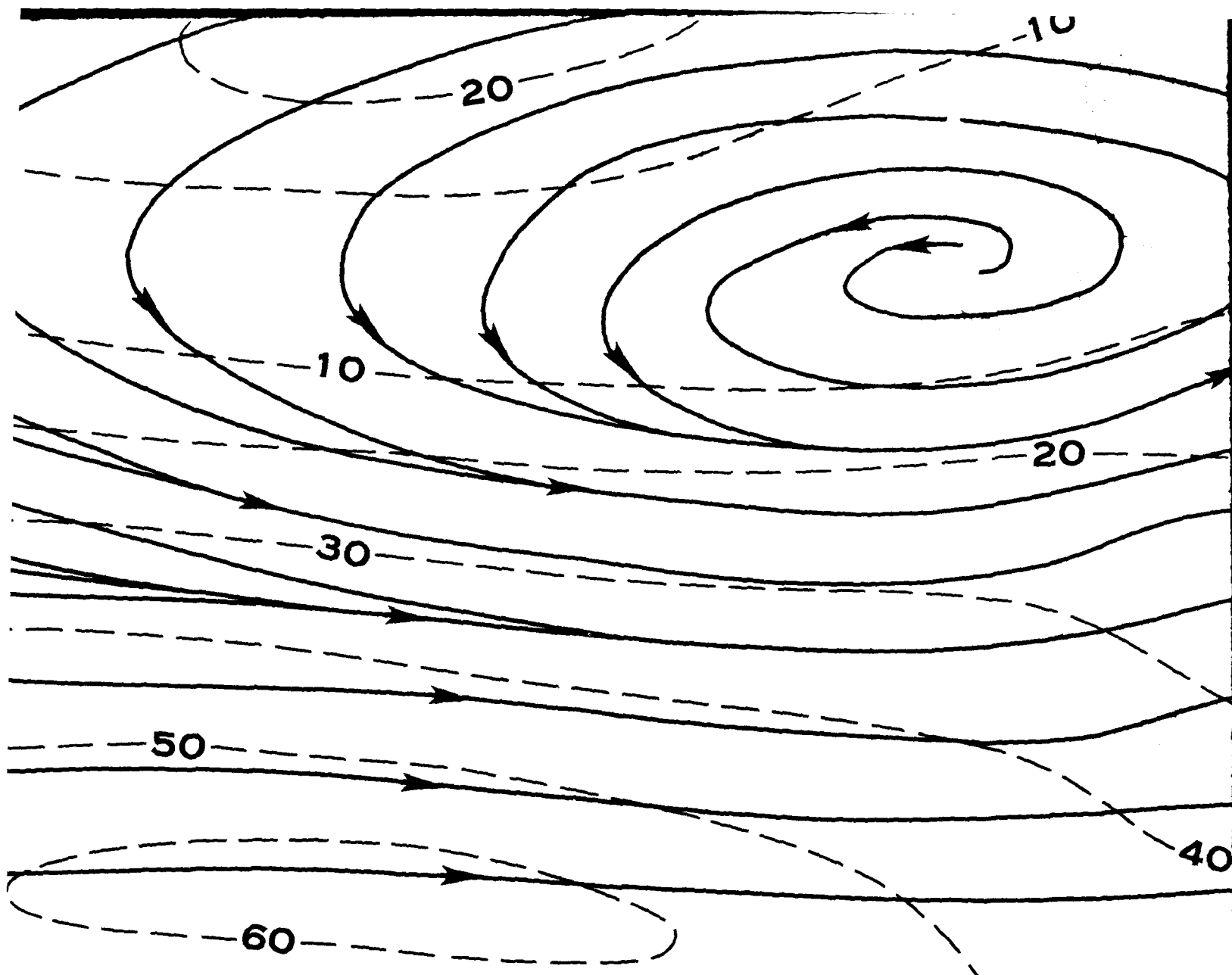
16



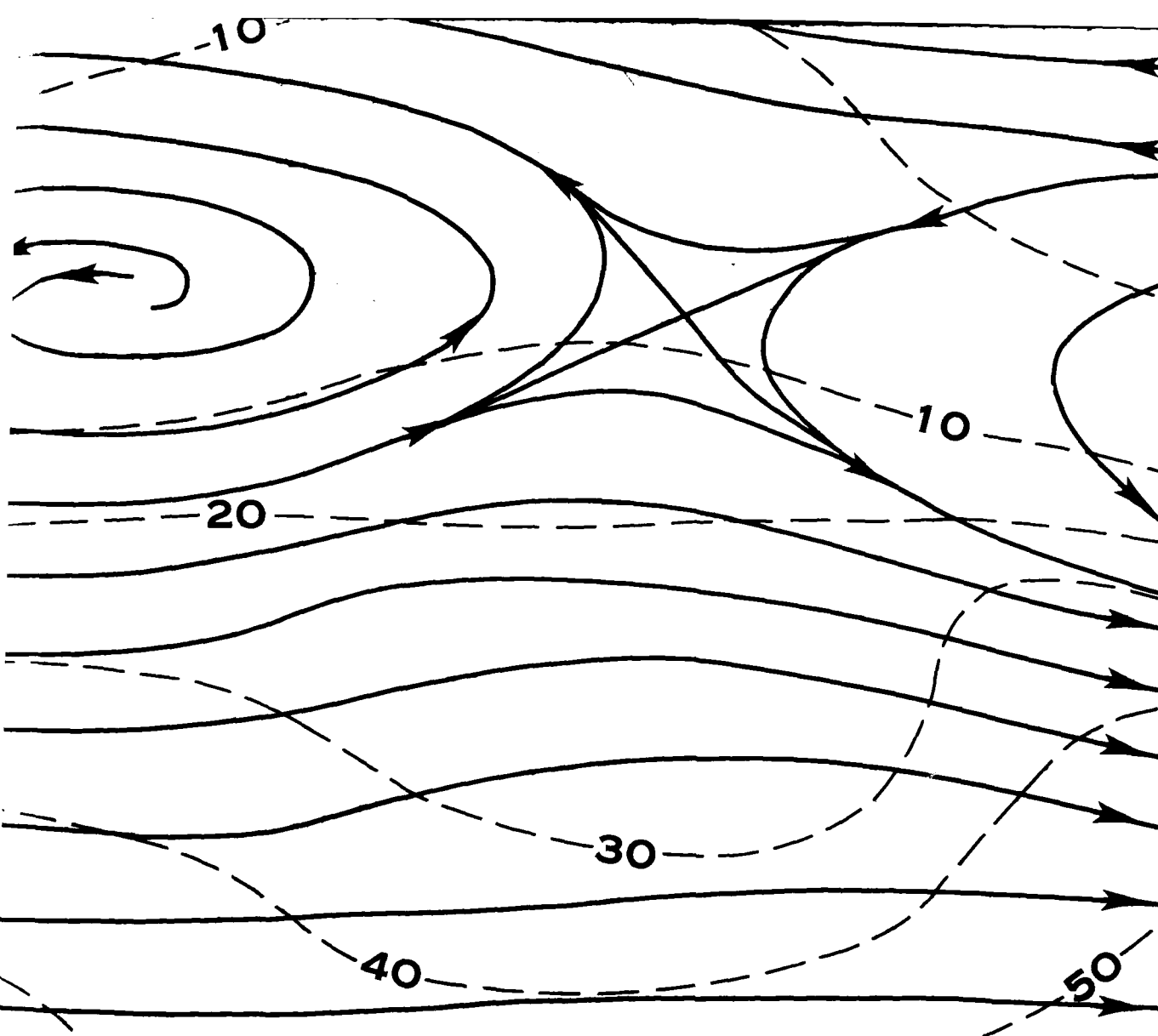
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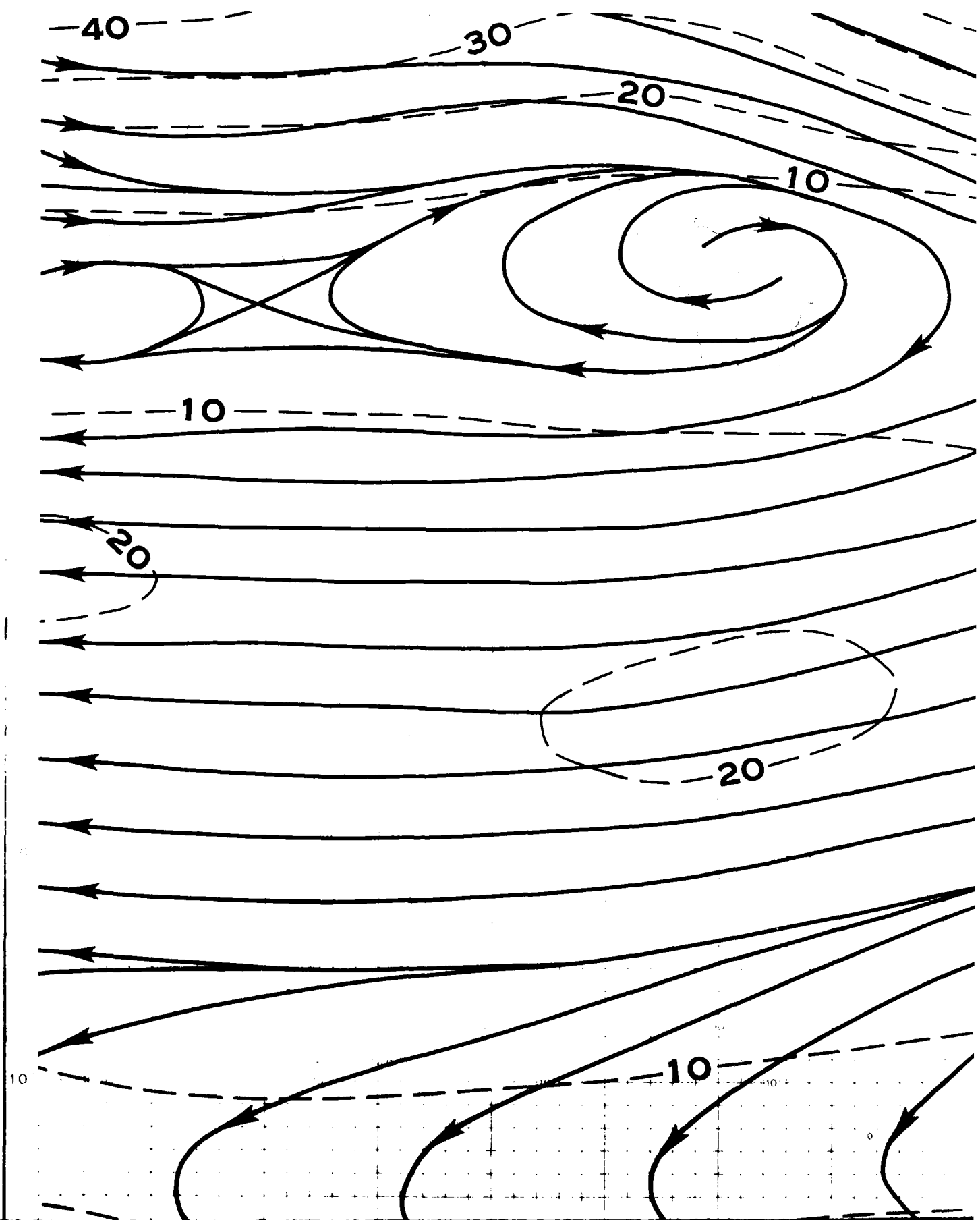
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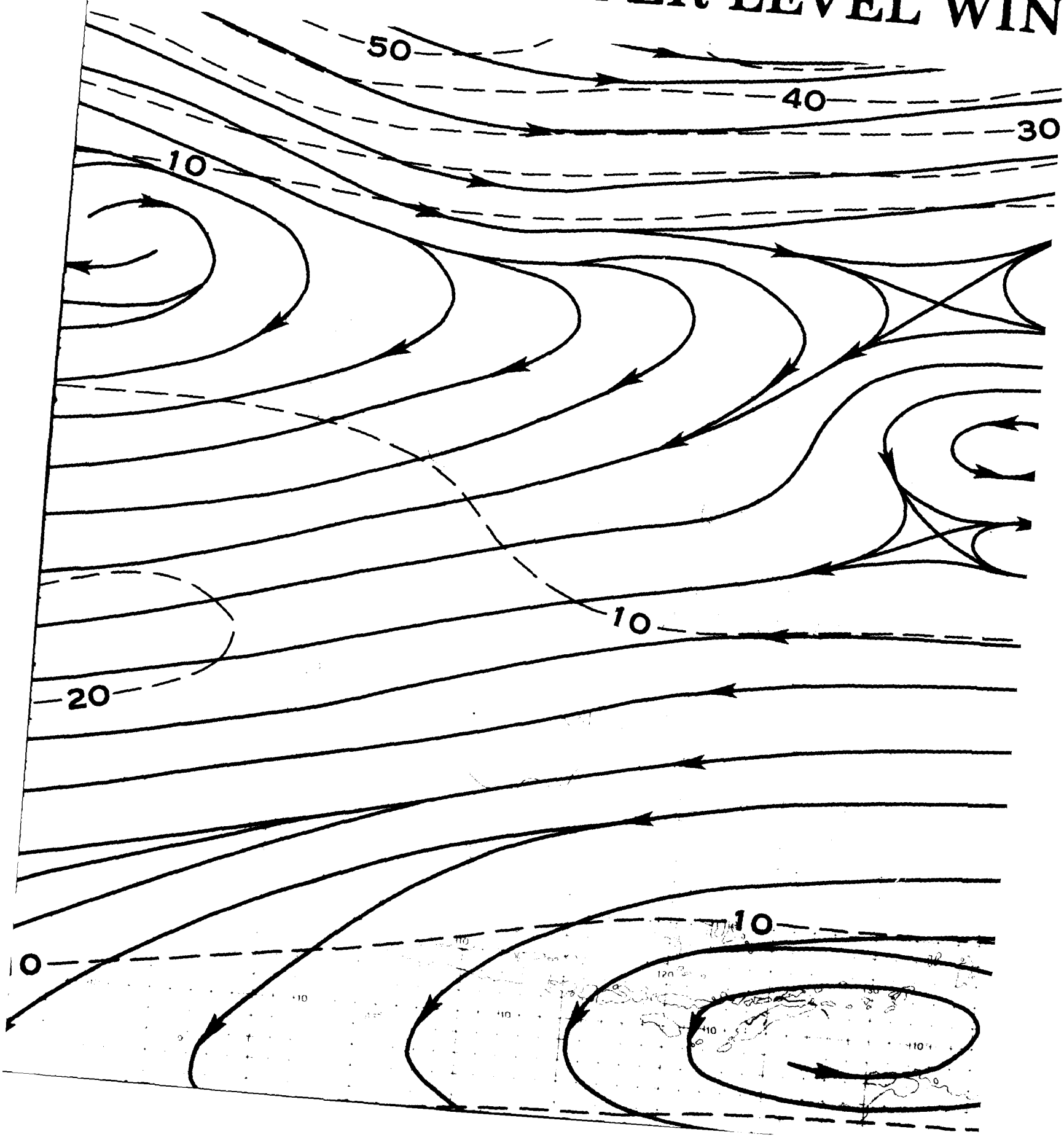
MULW-309W



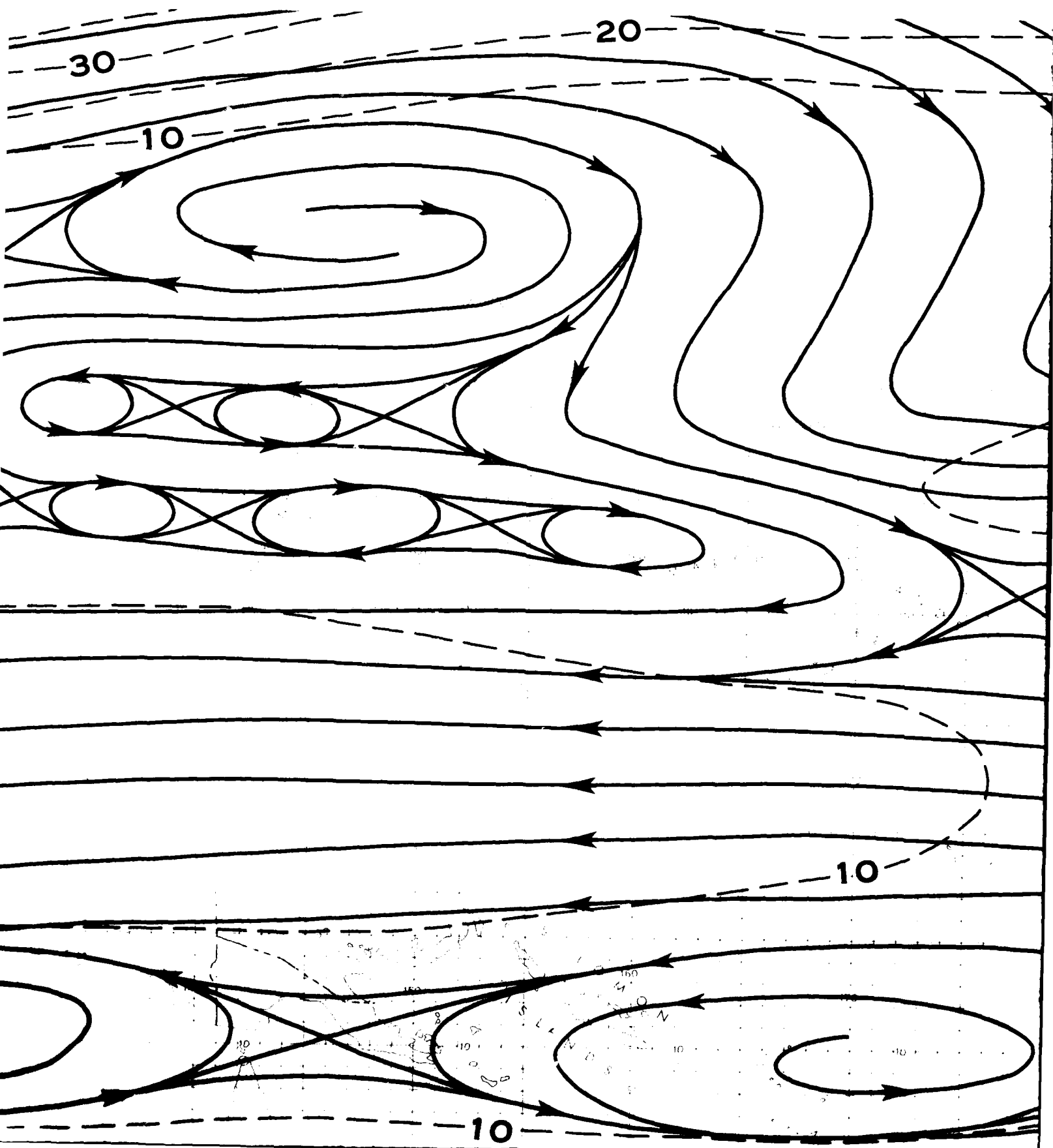
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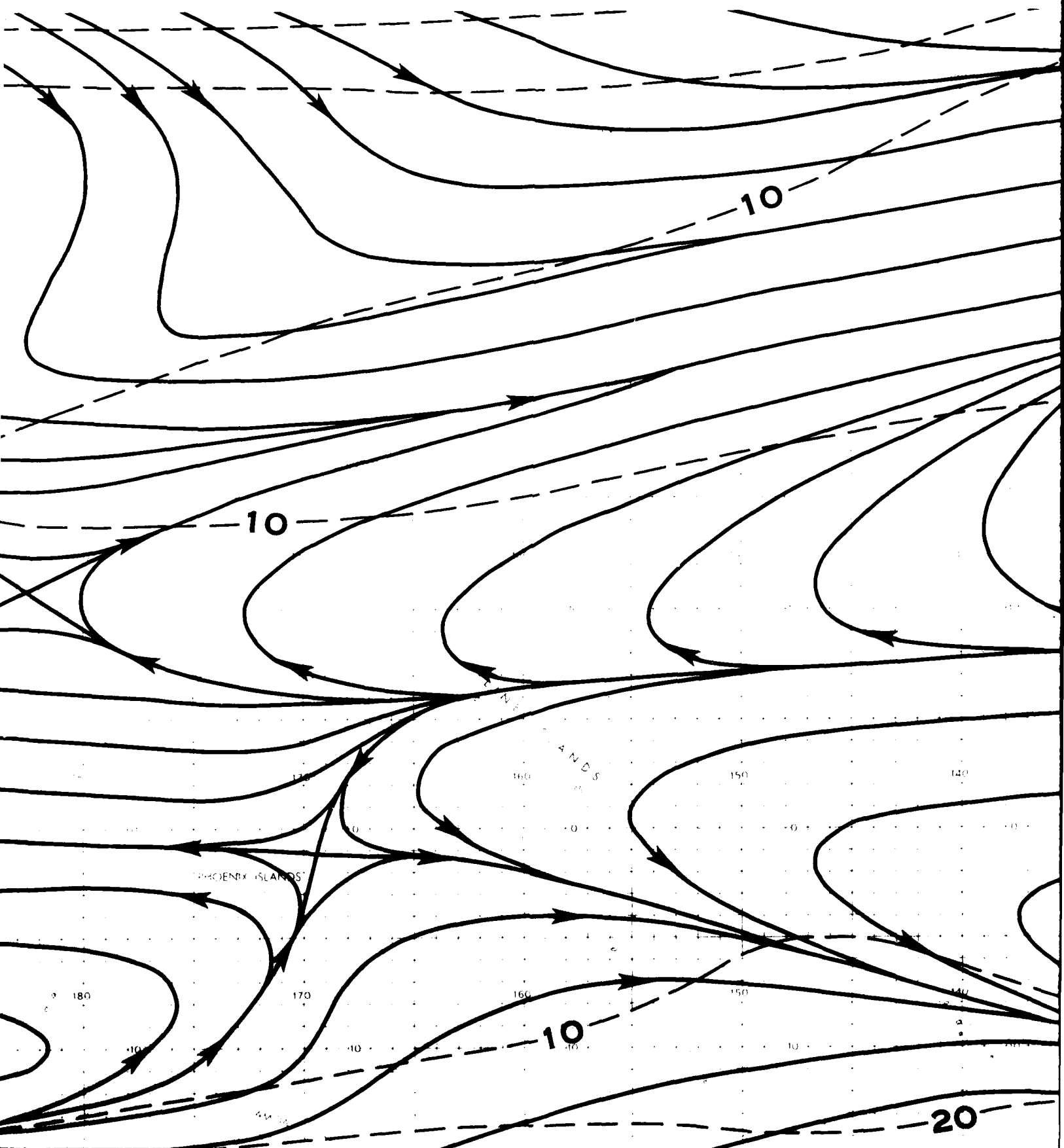
# MEAN UPPER LEVEL WIN.



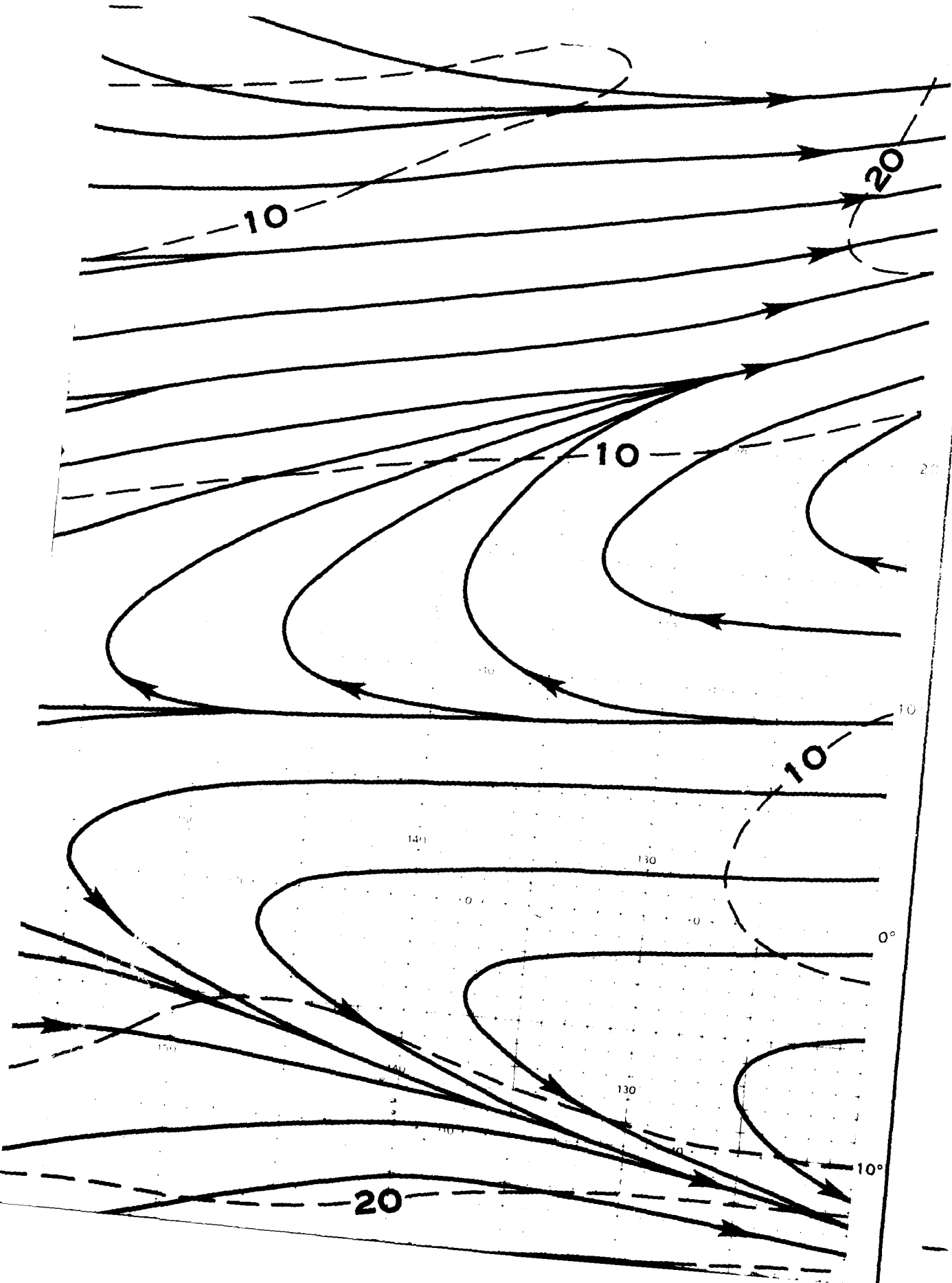
# WINDS over GLOBAL TROPICS - SE



# SEPTEMBER 300mb



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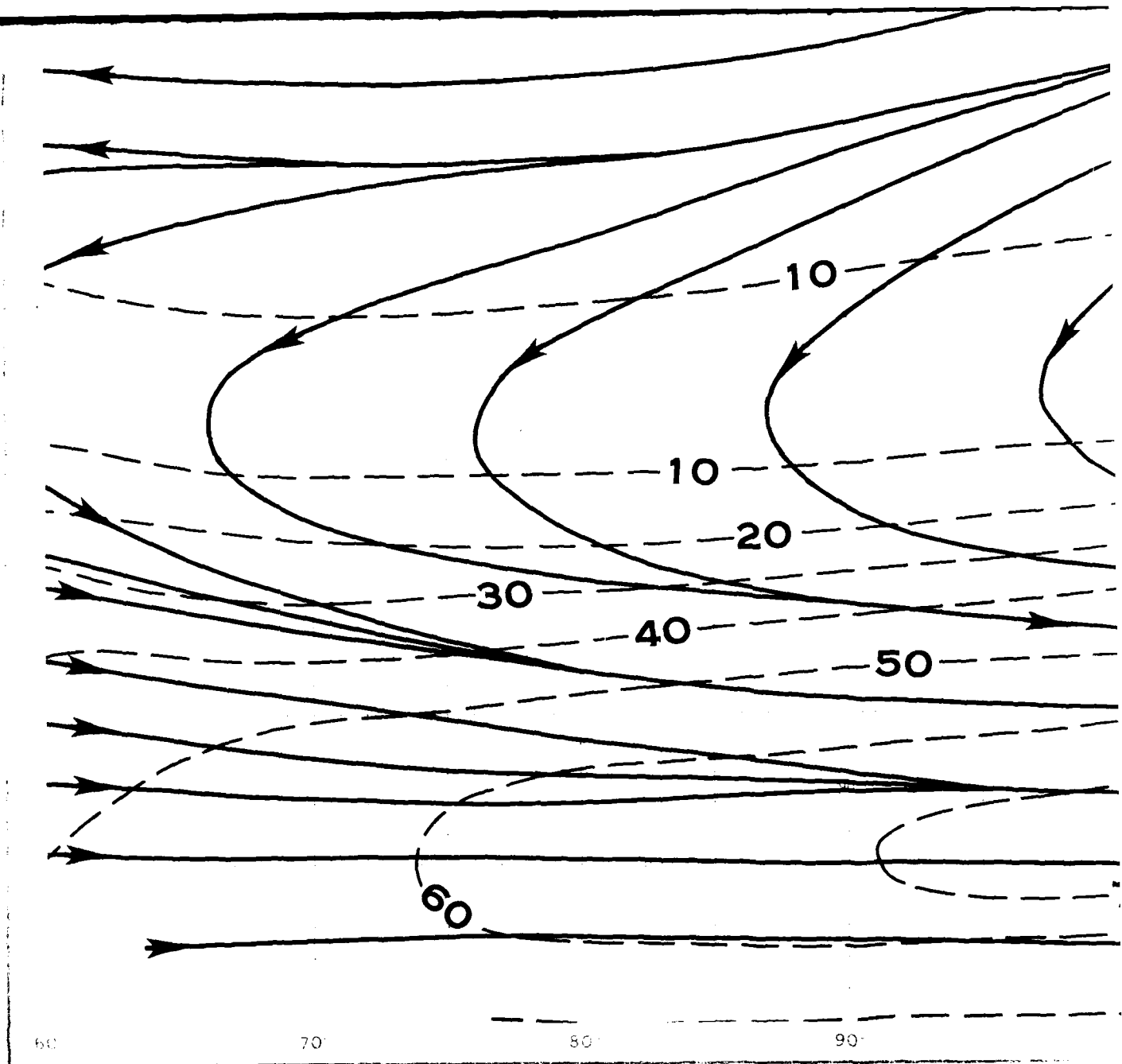
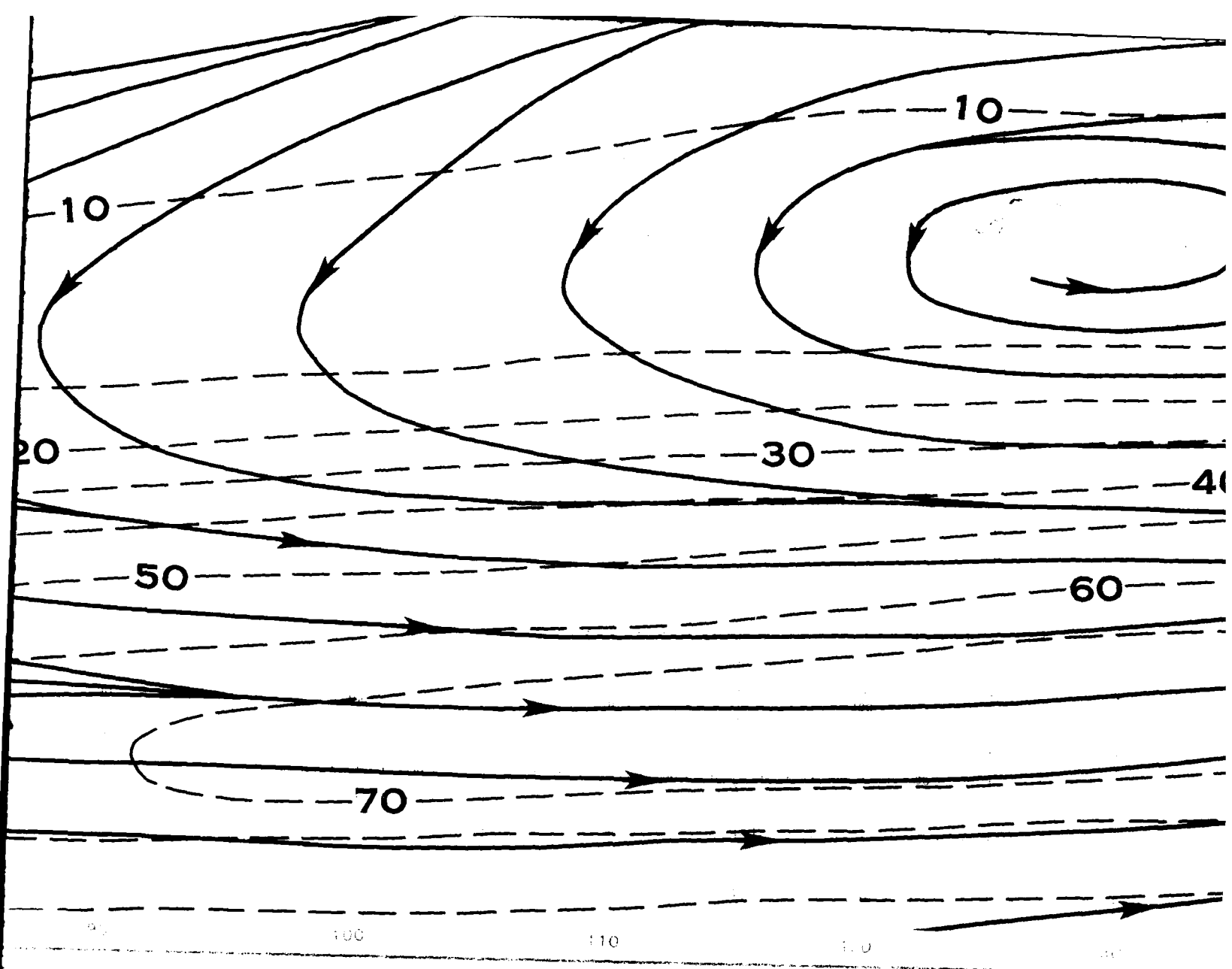
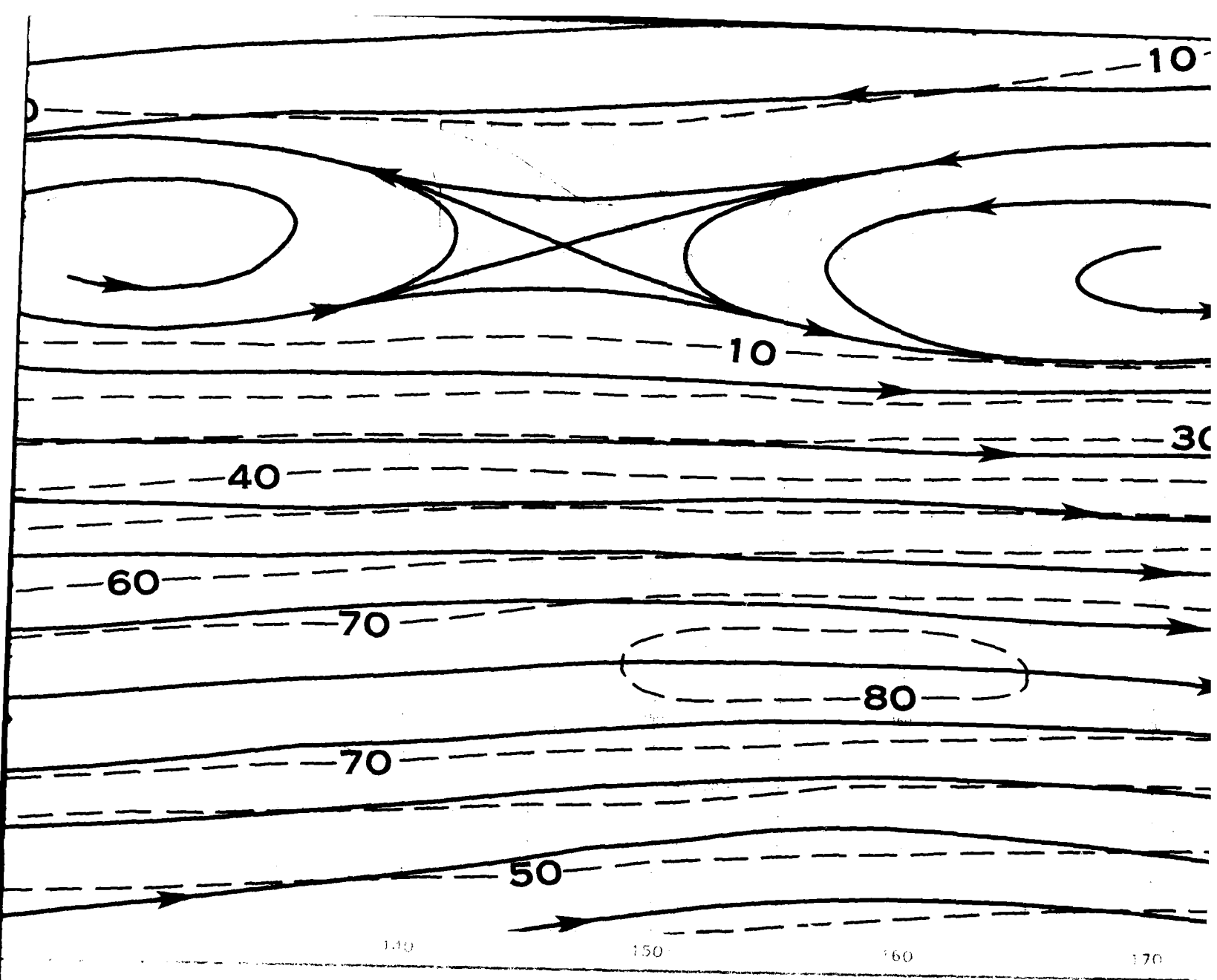


Figure 1. Streamlines and equipotential lines for a flow field with a curved boundary.

Figure 2. Streamlines and equipotential lines for a flow field with a curved boundary.



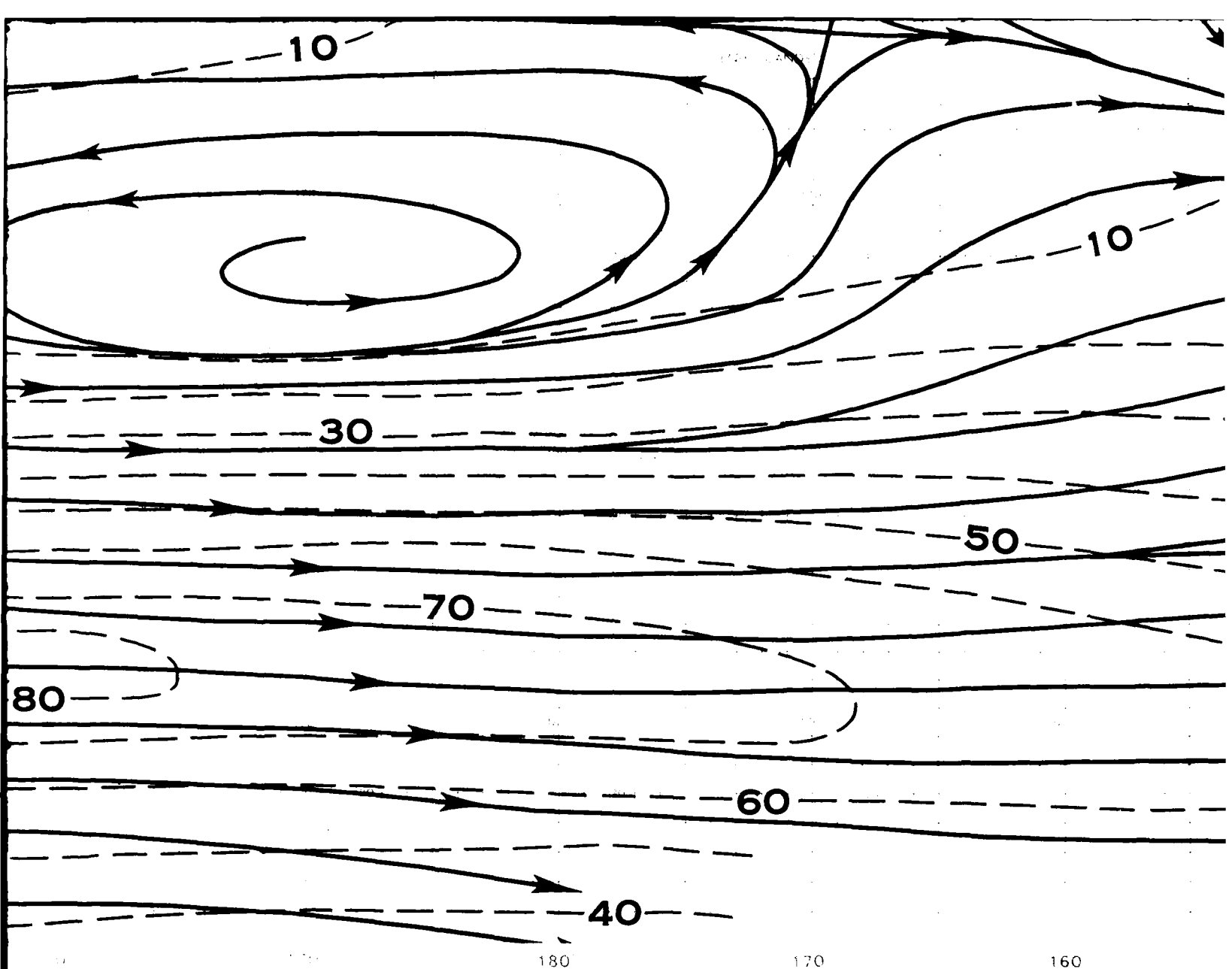
(7)



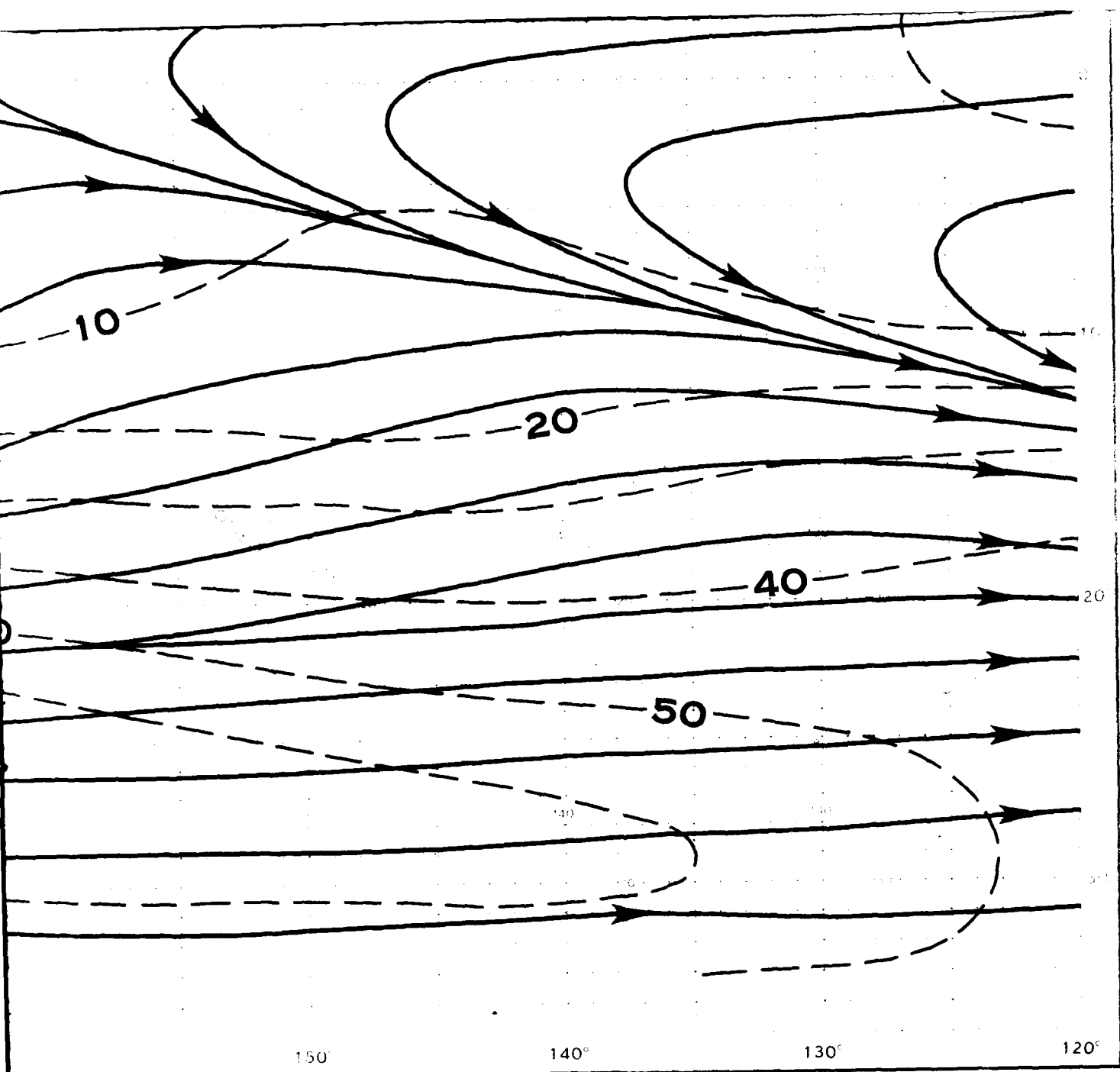
(9)

WIND TUNNEL DATA  
SURFACE PRESSURE  
FOR MODEL OF AIRCRAFT





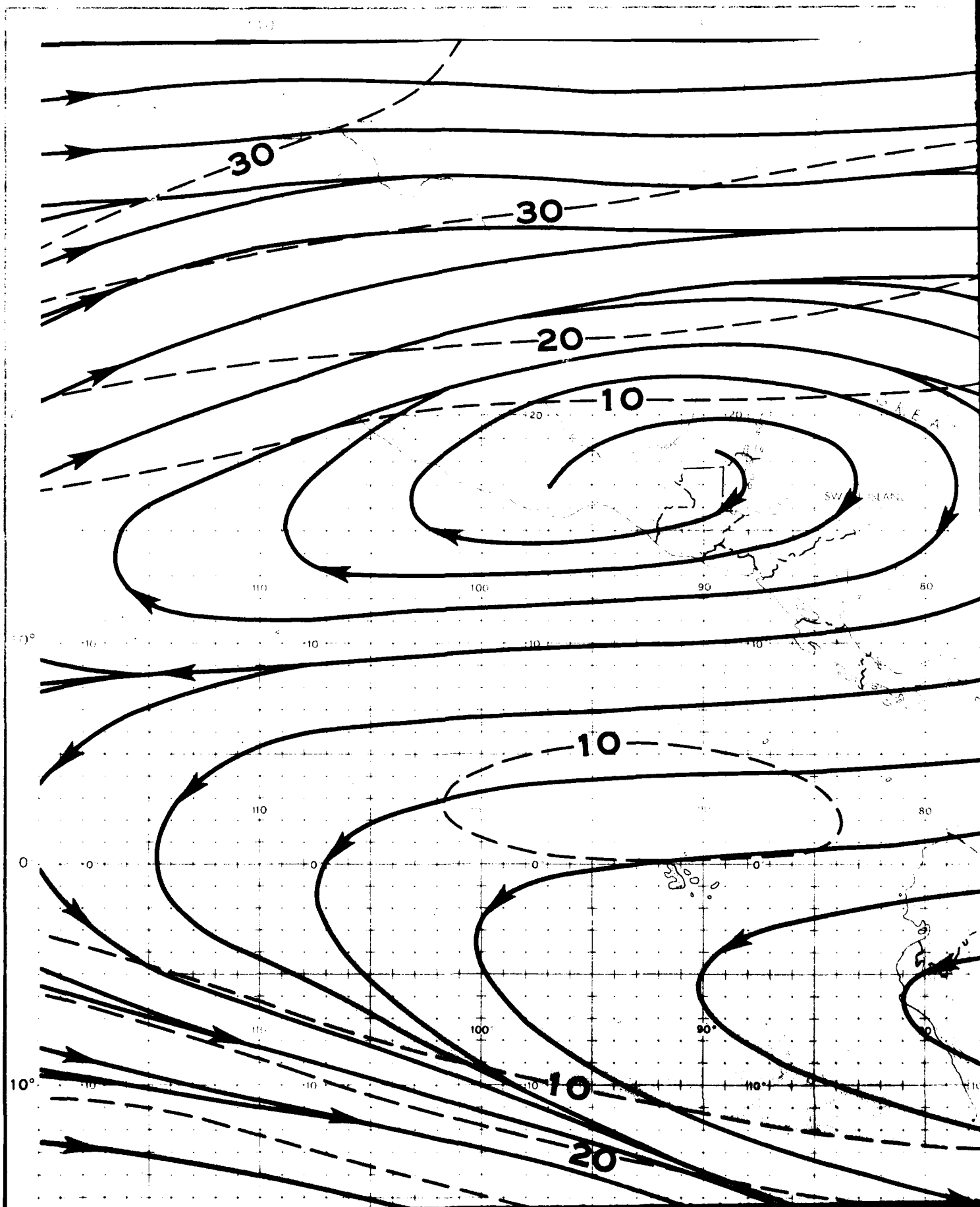
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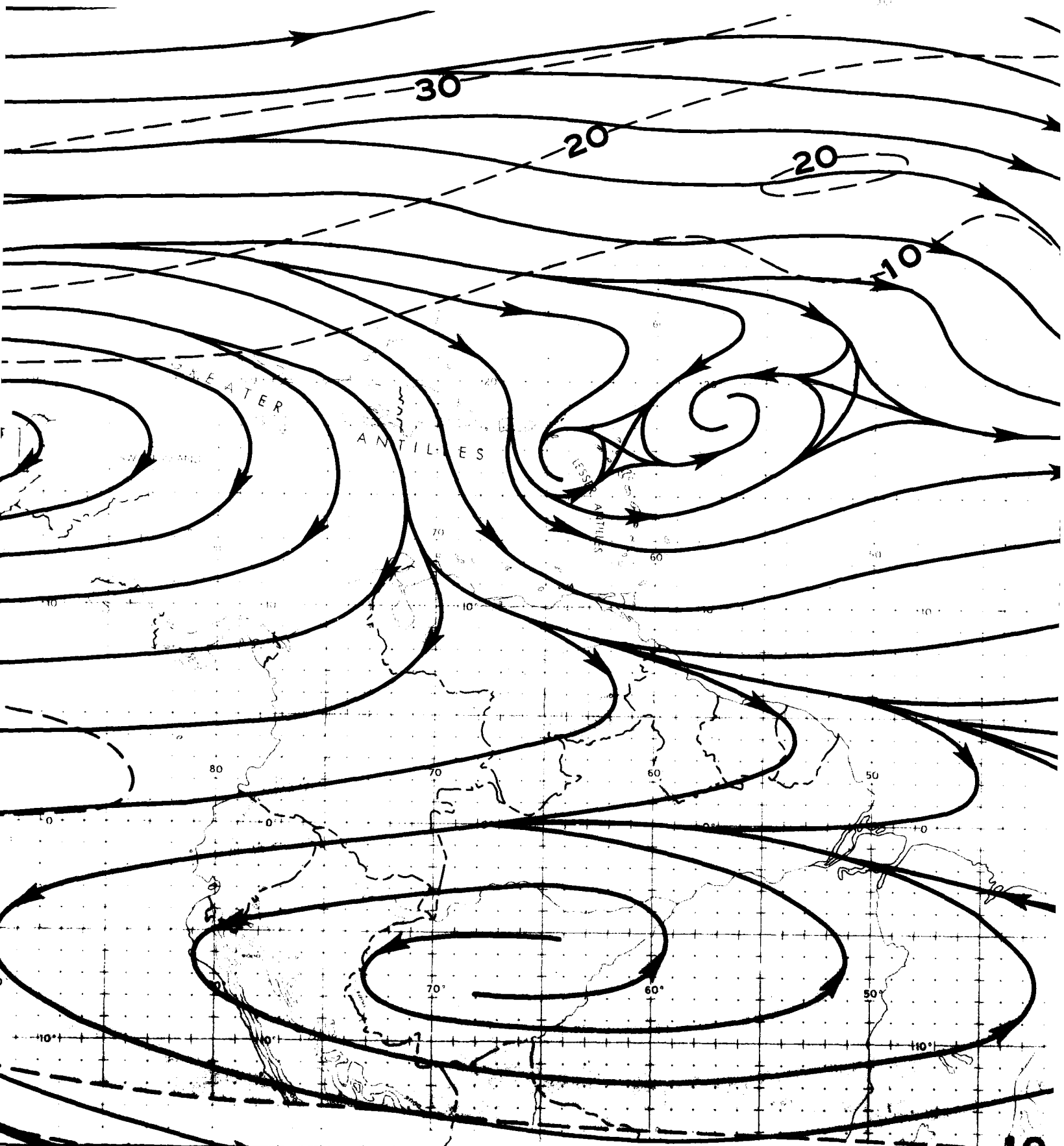
MULW-309E

(10)

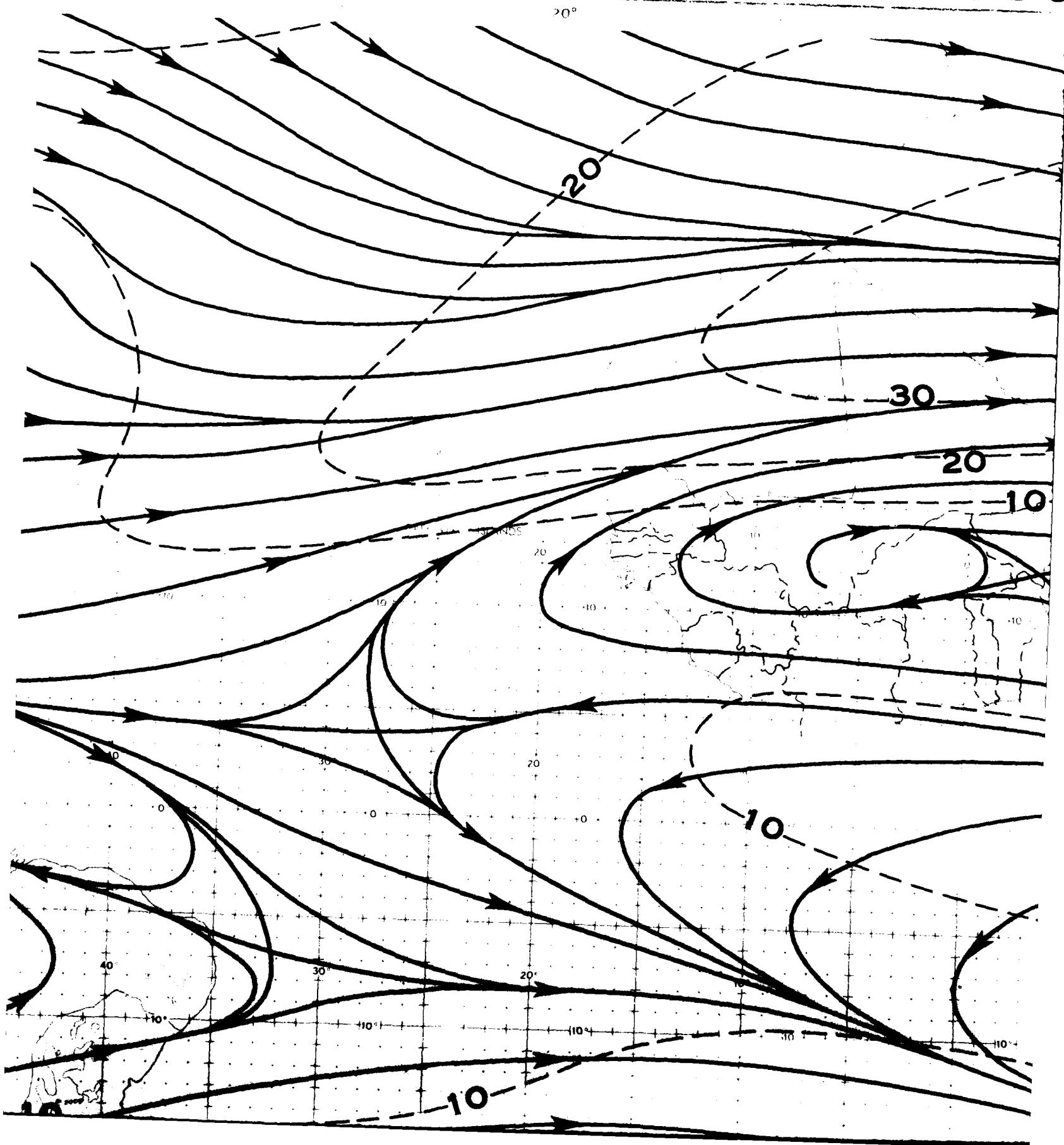
M



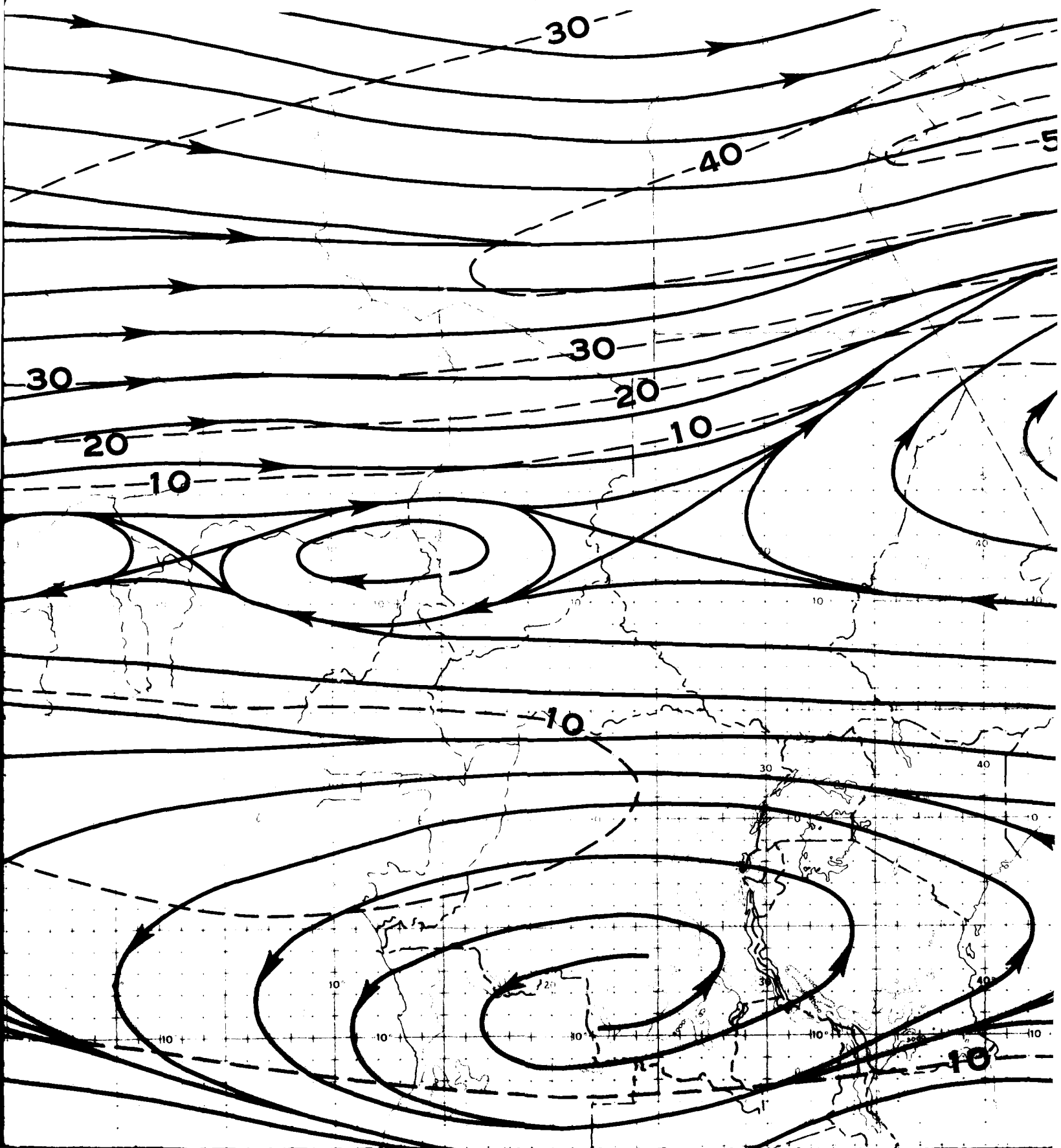
# MEAN UPPER LEVEL WIND

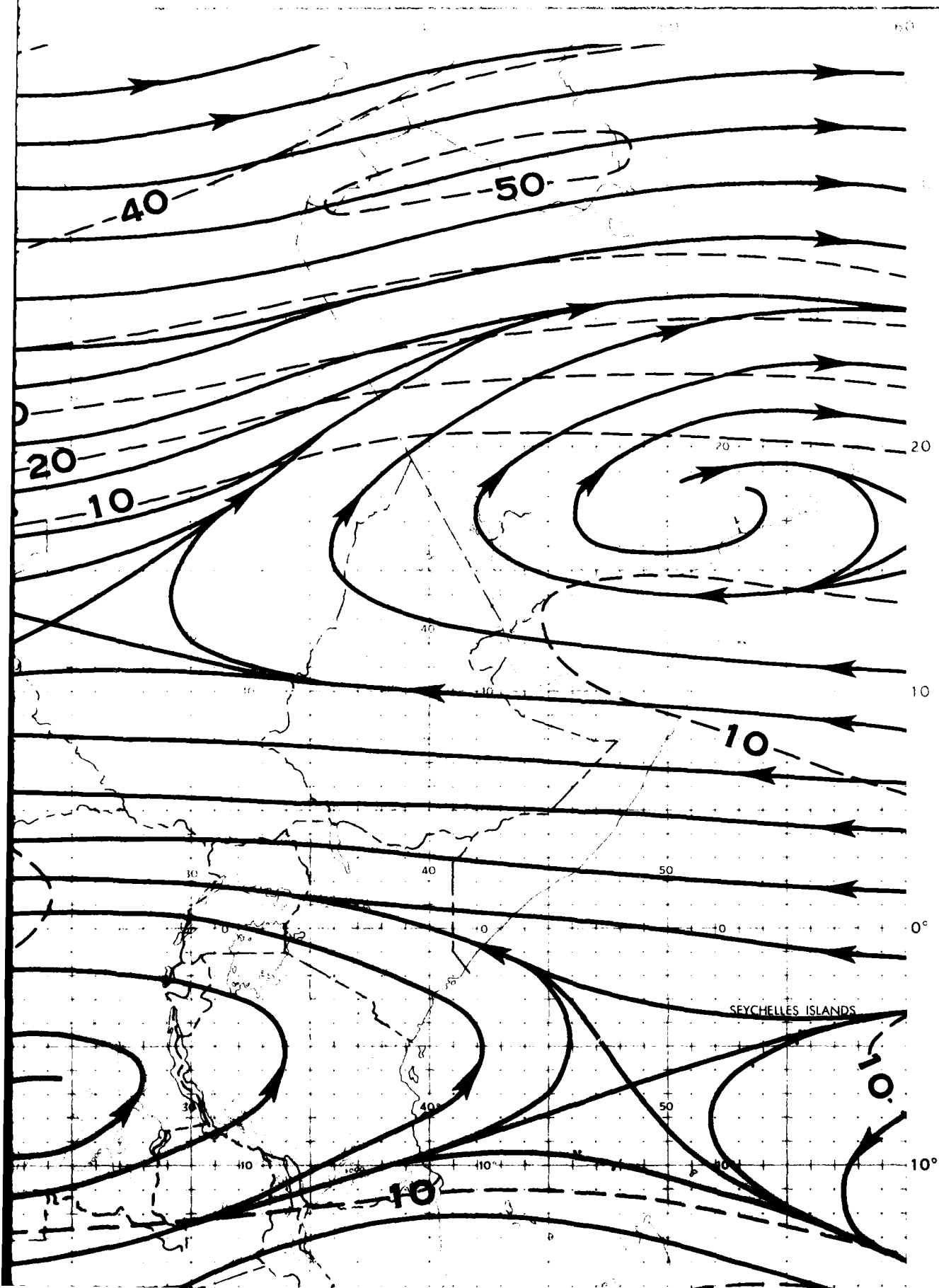


# WINDS over GLOBAL TROPICS - OCTO



# OCTOBER 300mb





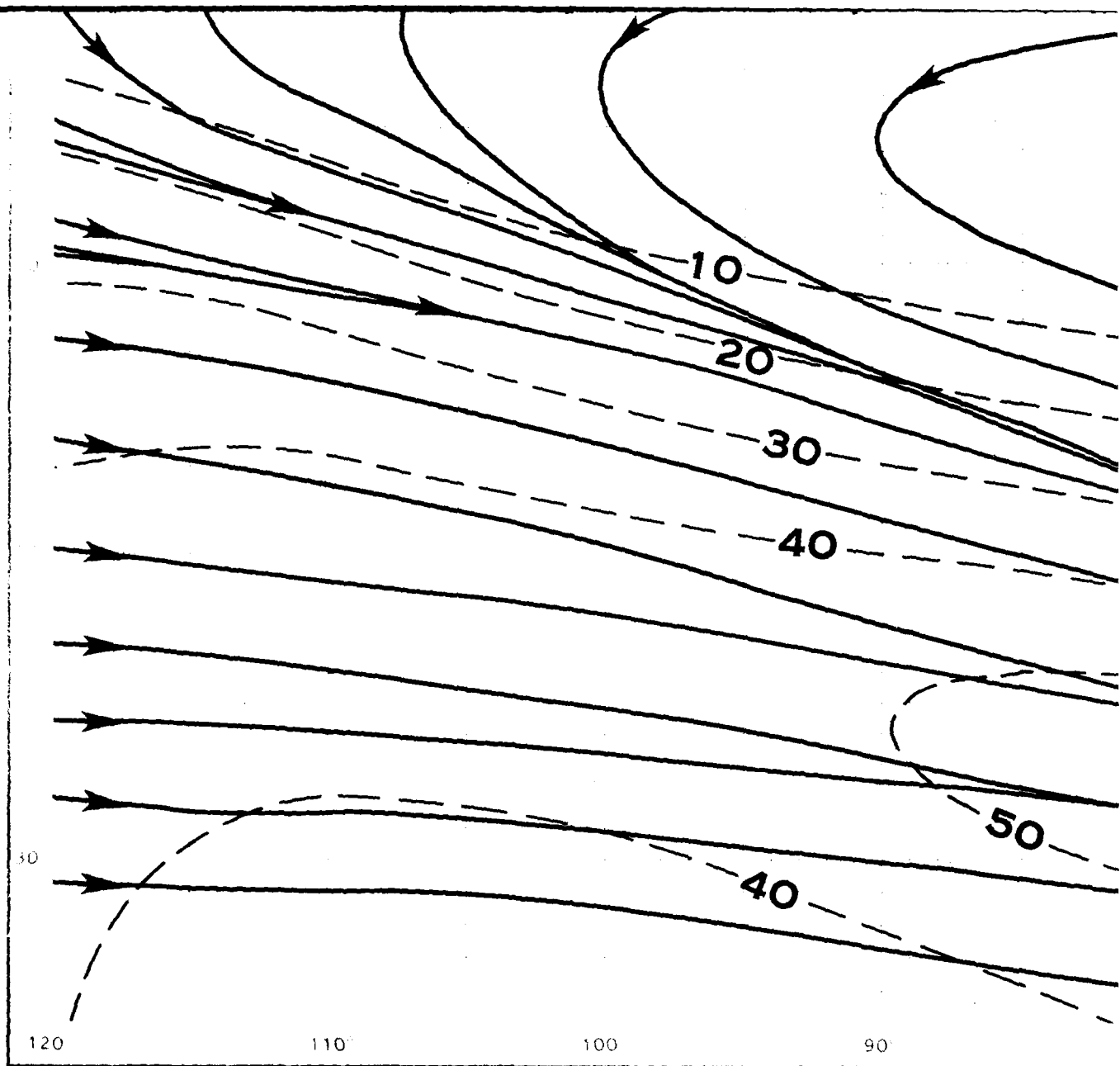


Figure 1. Contour map of the function  $f(x, y)$  in the region  $90 \leq x \leq 120$ ,  $0 \leq y \leq 100$ . The solid lines with arrows represent the vector field  $\mathbf{F}(x, y)$  and the dashed lines represent the level curves of  $f(x, y)$ . The numbers 10, 20, 30, 40, and 50 indicate the values of  $f(x, y)$  along the dashed lines.

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AD-A141 484

MEAN UPPER TROPOSPHERIC FLOW OVER THE GLOBAL TROPICS  
VOLUME 2(U) AIR WEATHER SERVICE SCOTT AFB IL  
J C SADLER ET AL. JAN 84 AWS/TR-83/002-VOL-2

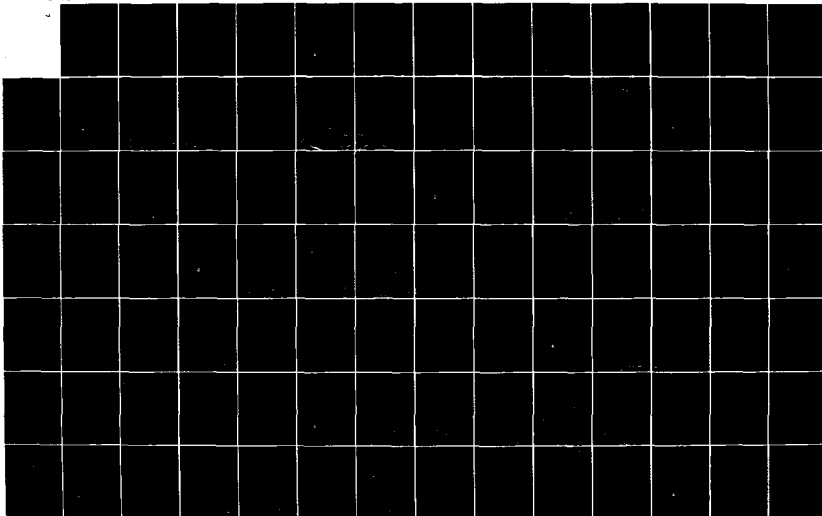
3/6

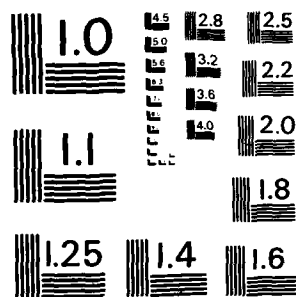
UNCLASSIFIED

SBI-AD-E850 690

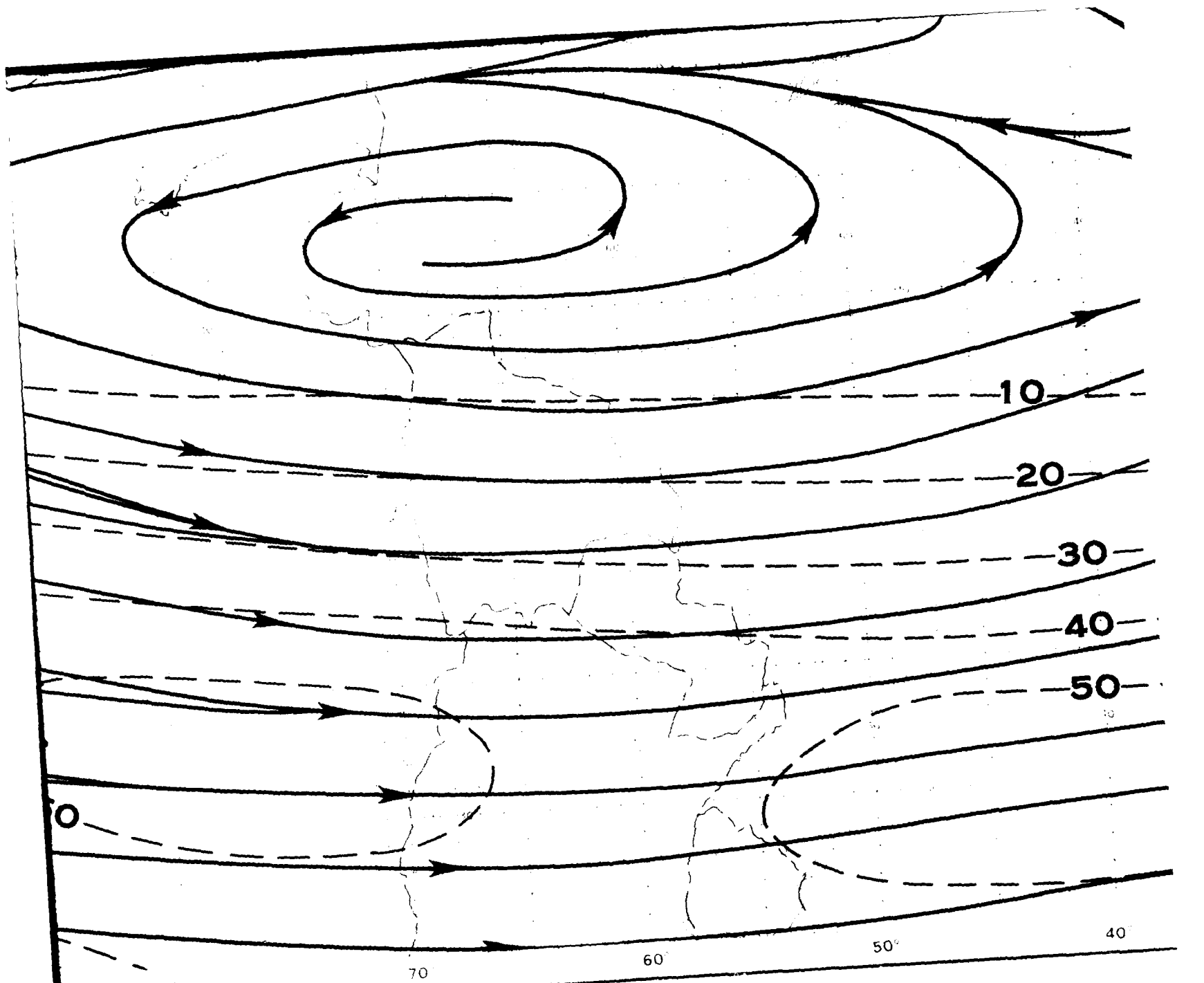
F/G 4/2

NL

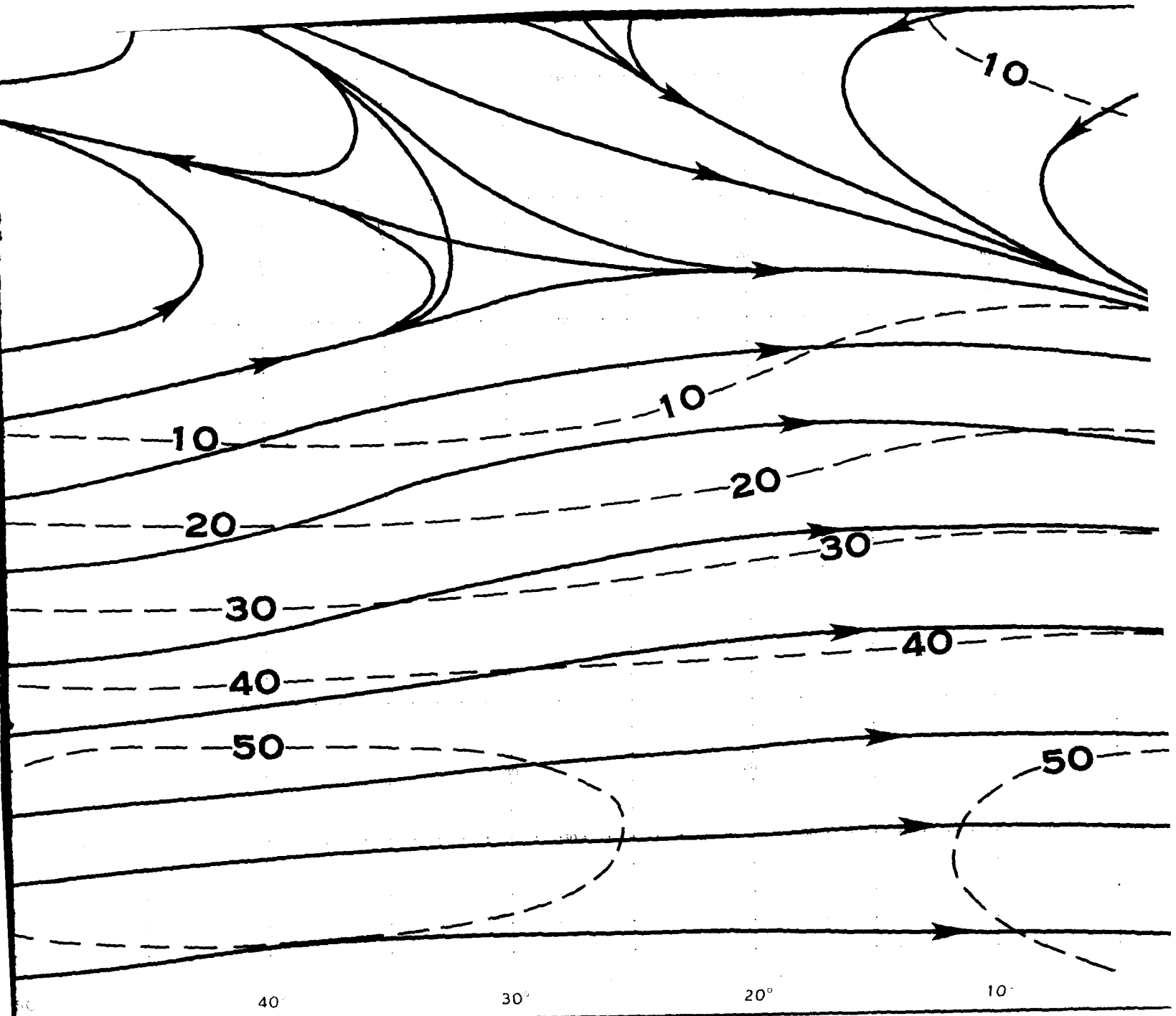




MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

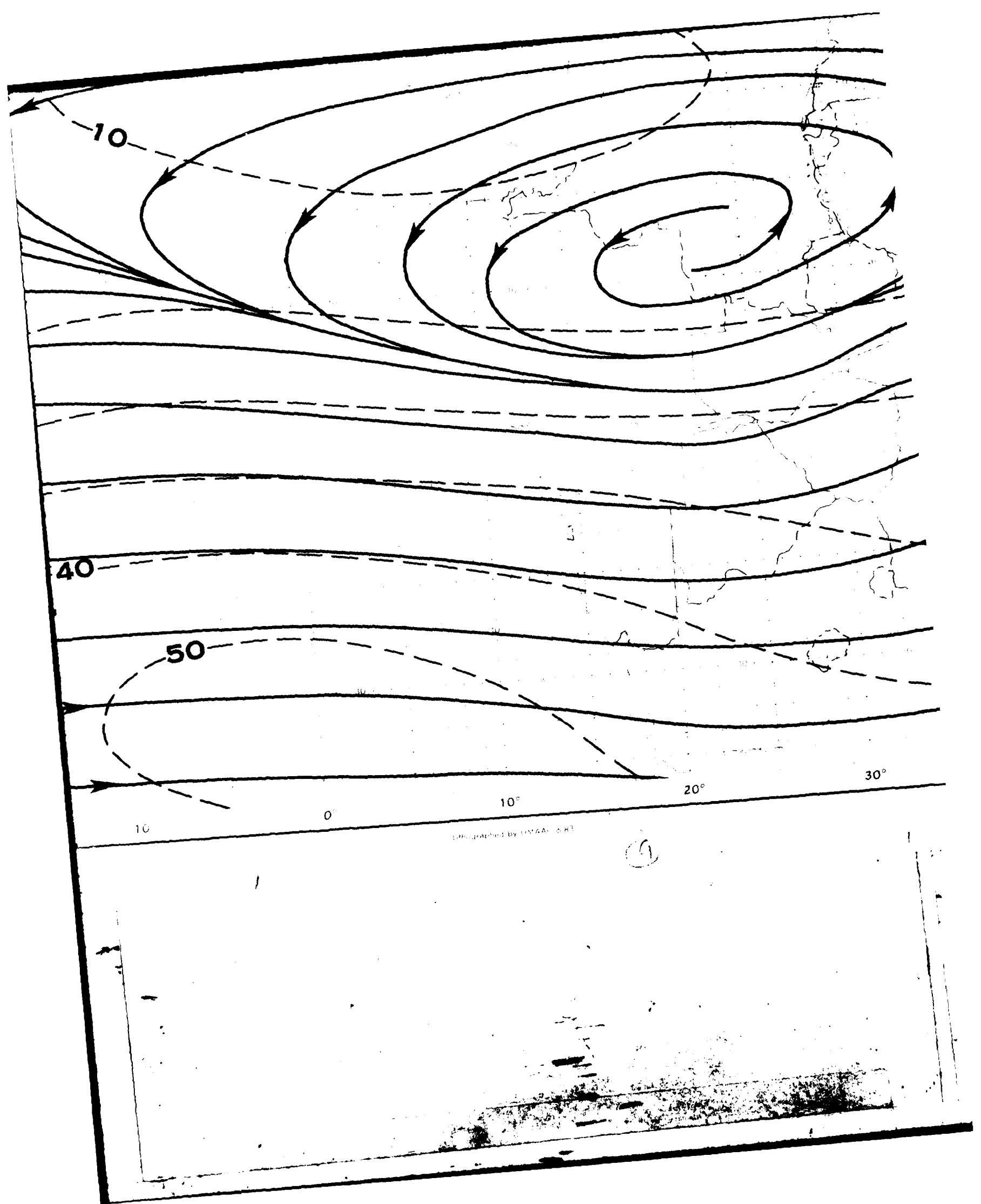


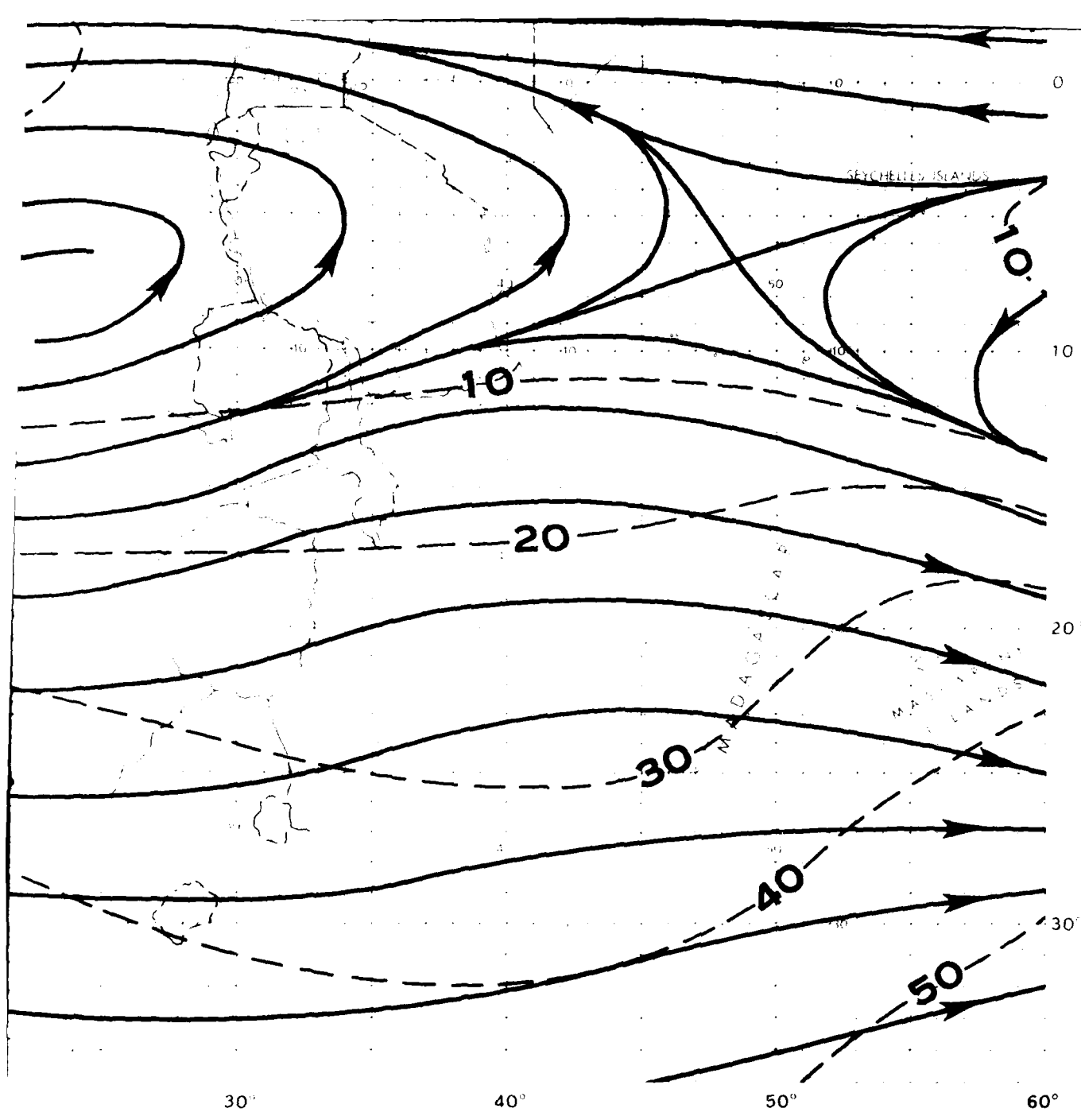
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MERCATOR PROJECTION  
SCALE 1:20,000,000  
TRUE AT 22° 30' N AND 22° 30' S

(9)



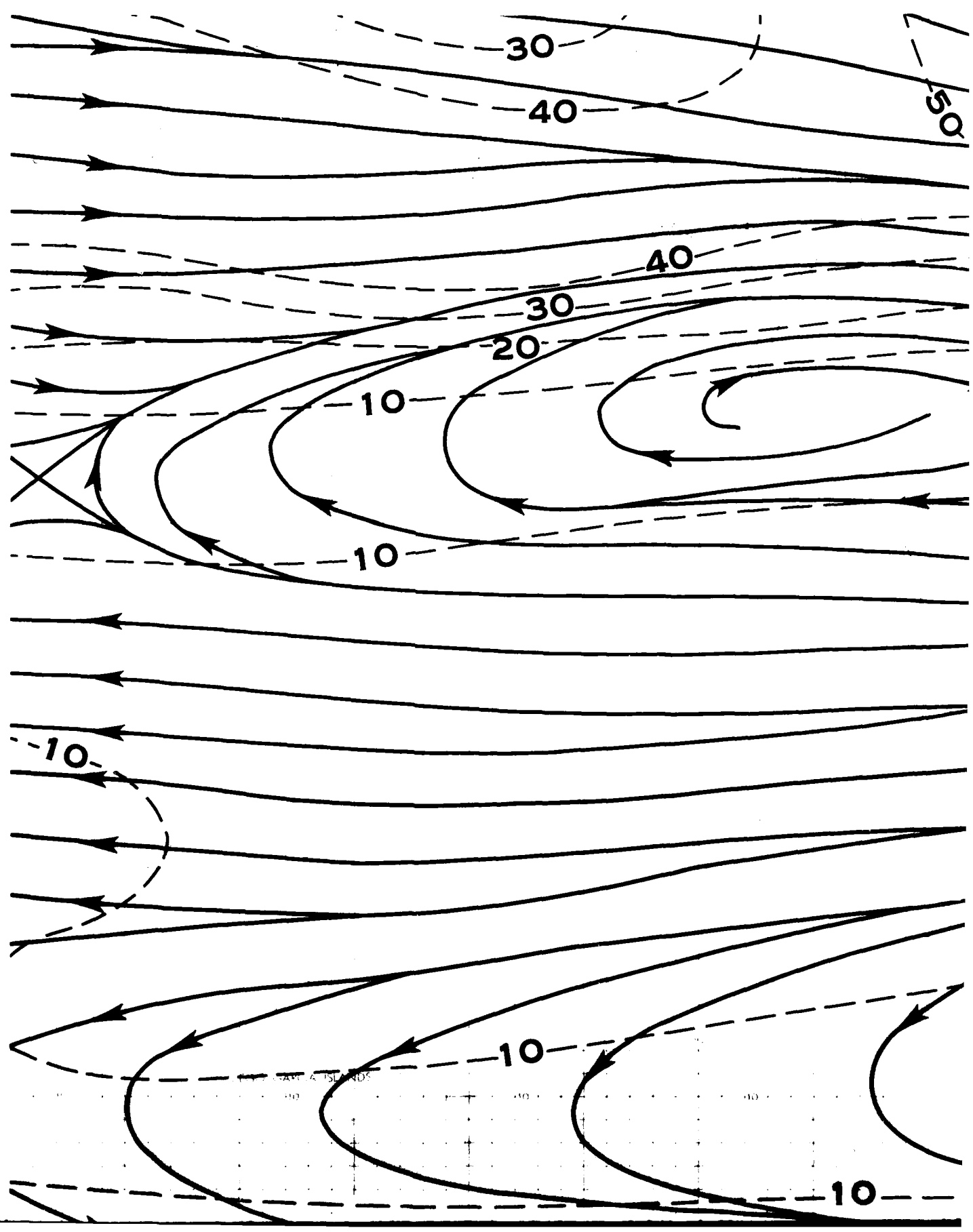


(16)

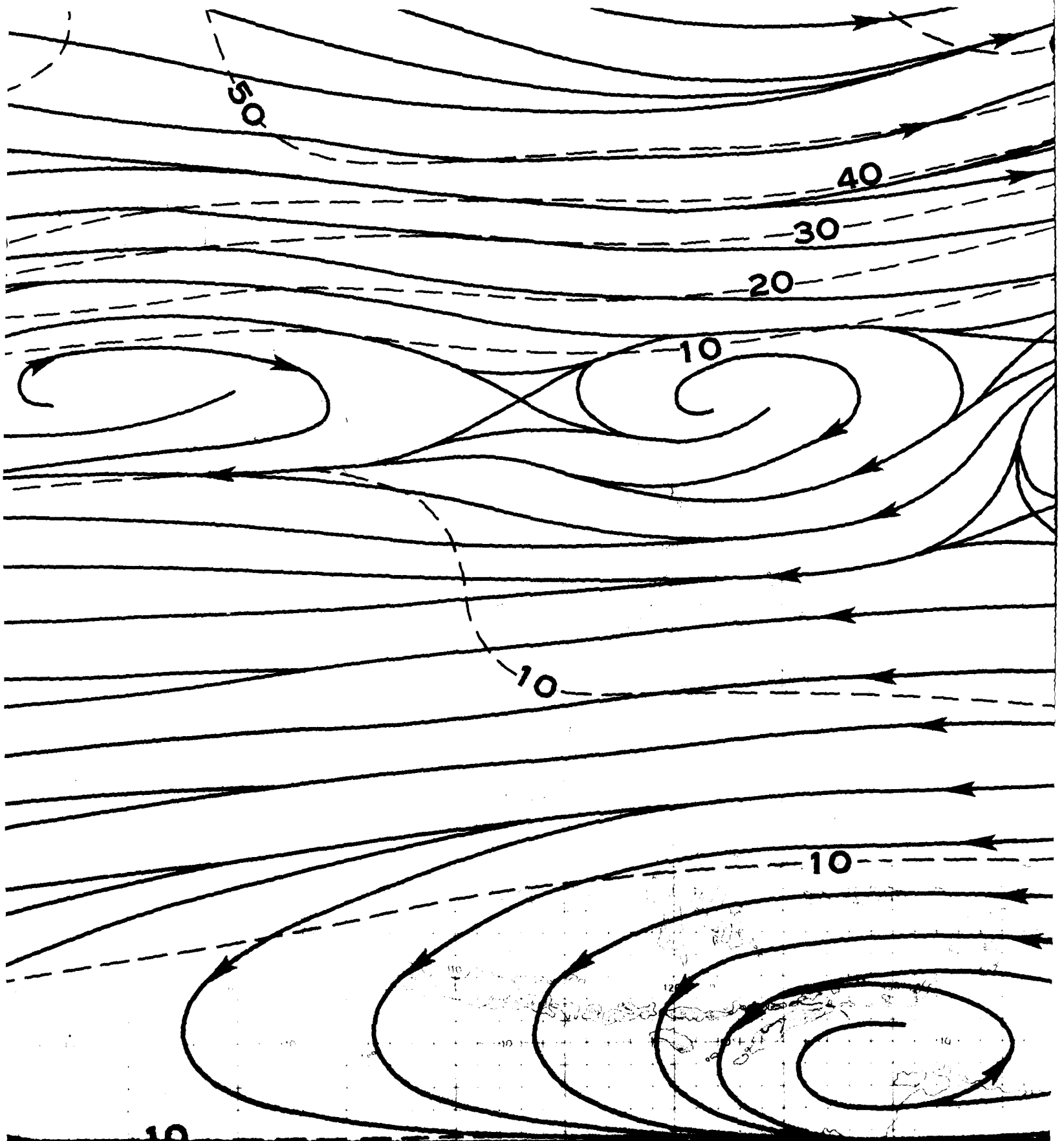
MULW-310W

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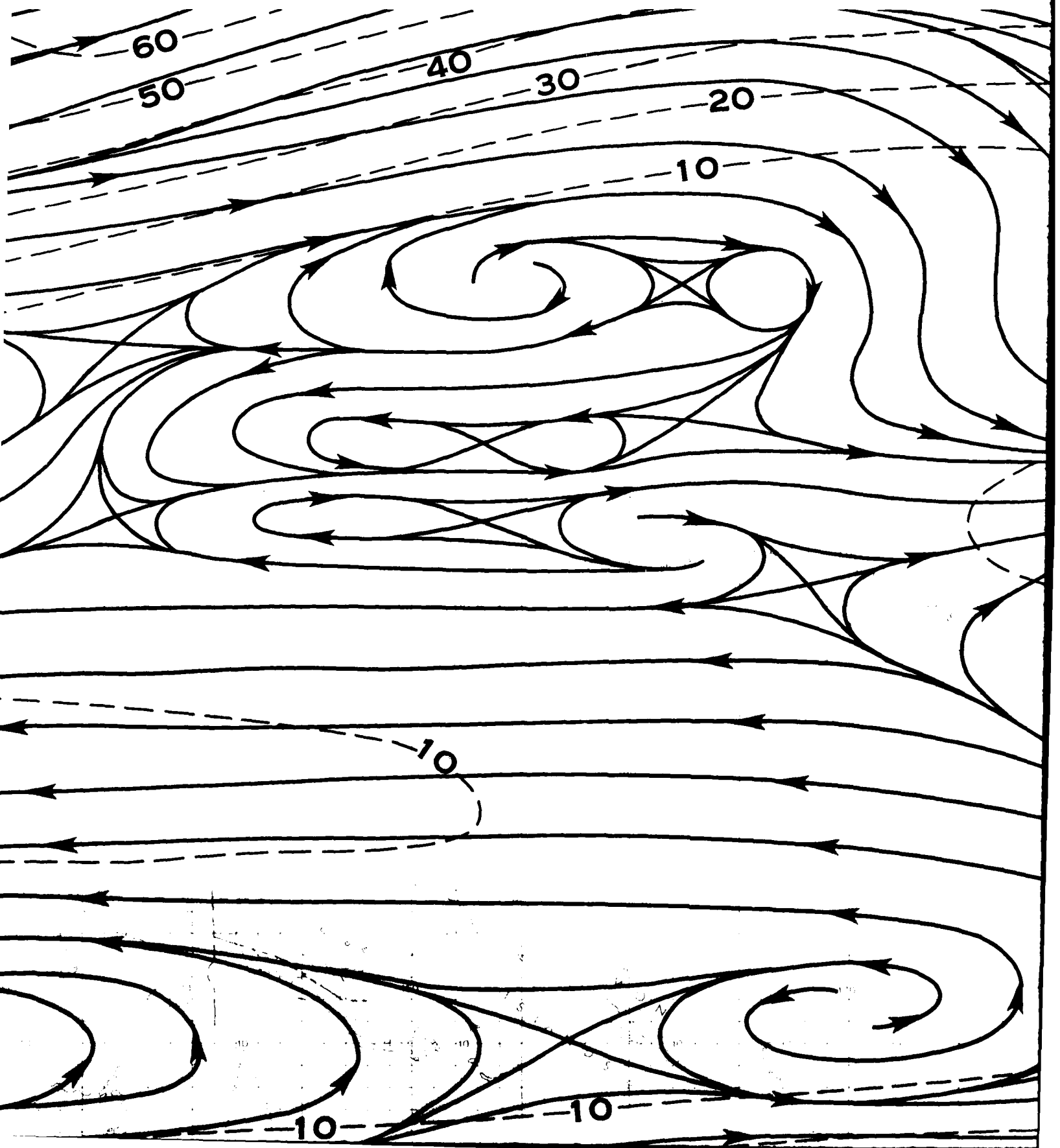


# MEAN UPPER LEVEL WIN<sup>2</sup>



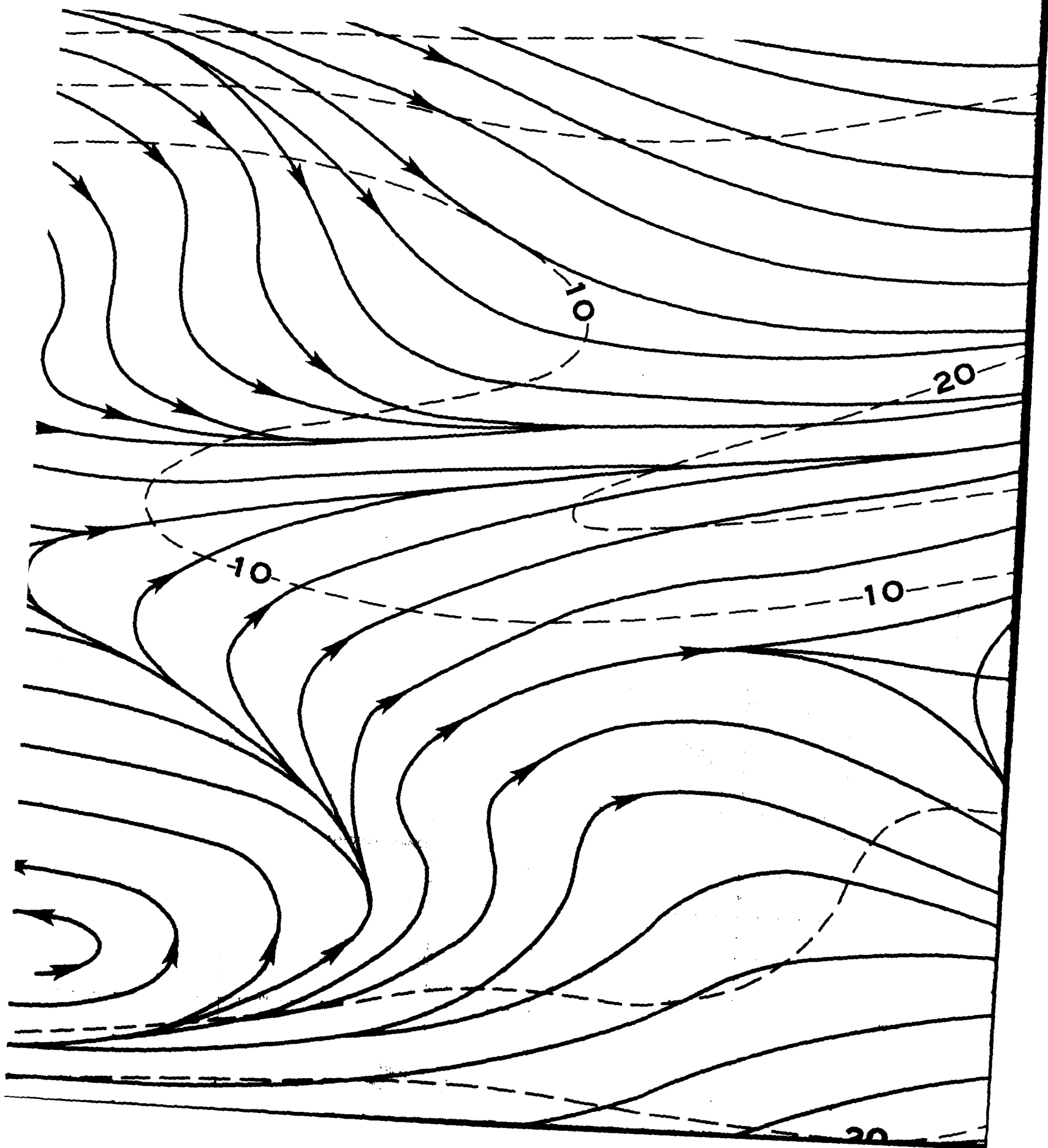


# WINDS over GLOBAL TROPICS - 0

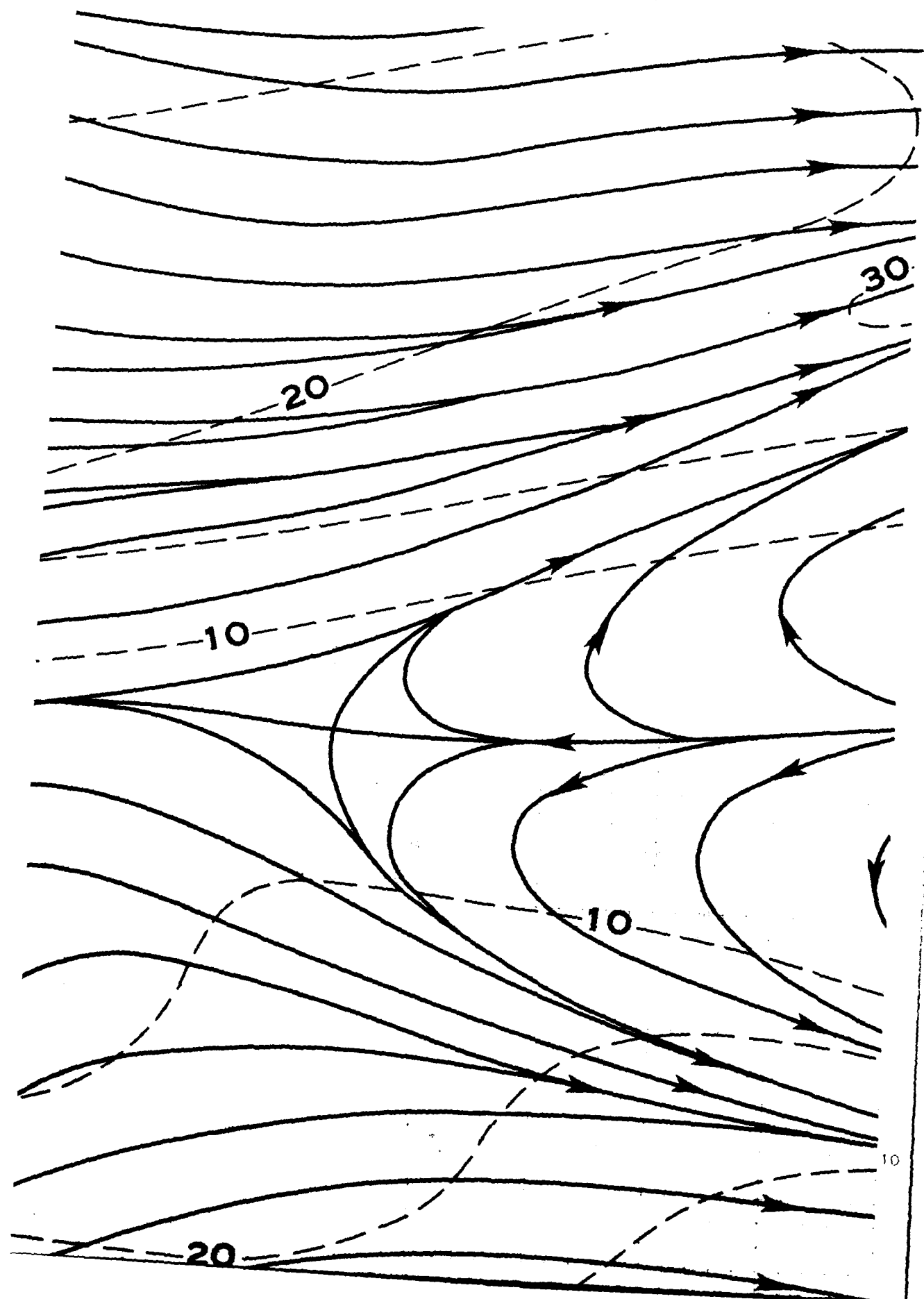


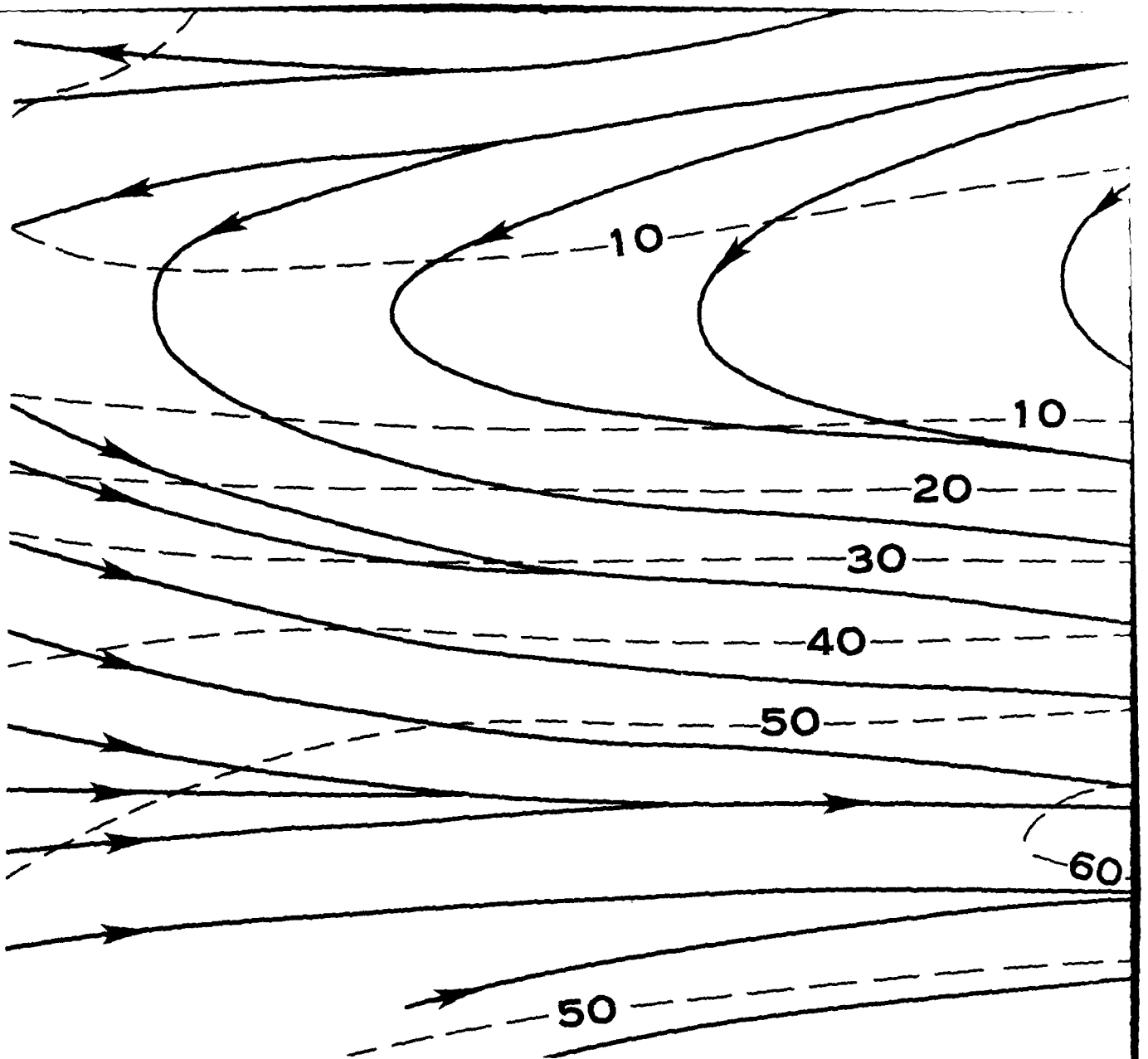
# CS - OCTOBER 300mb

(4)

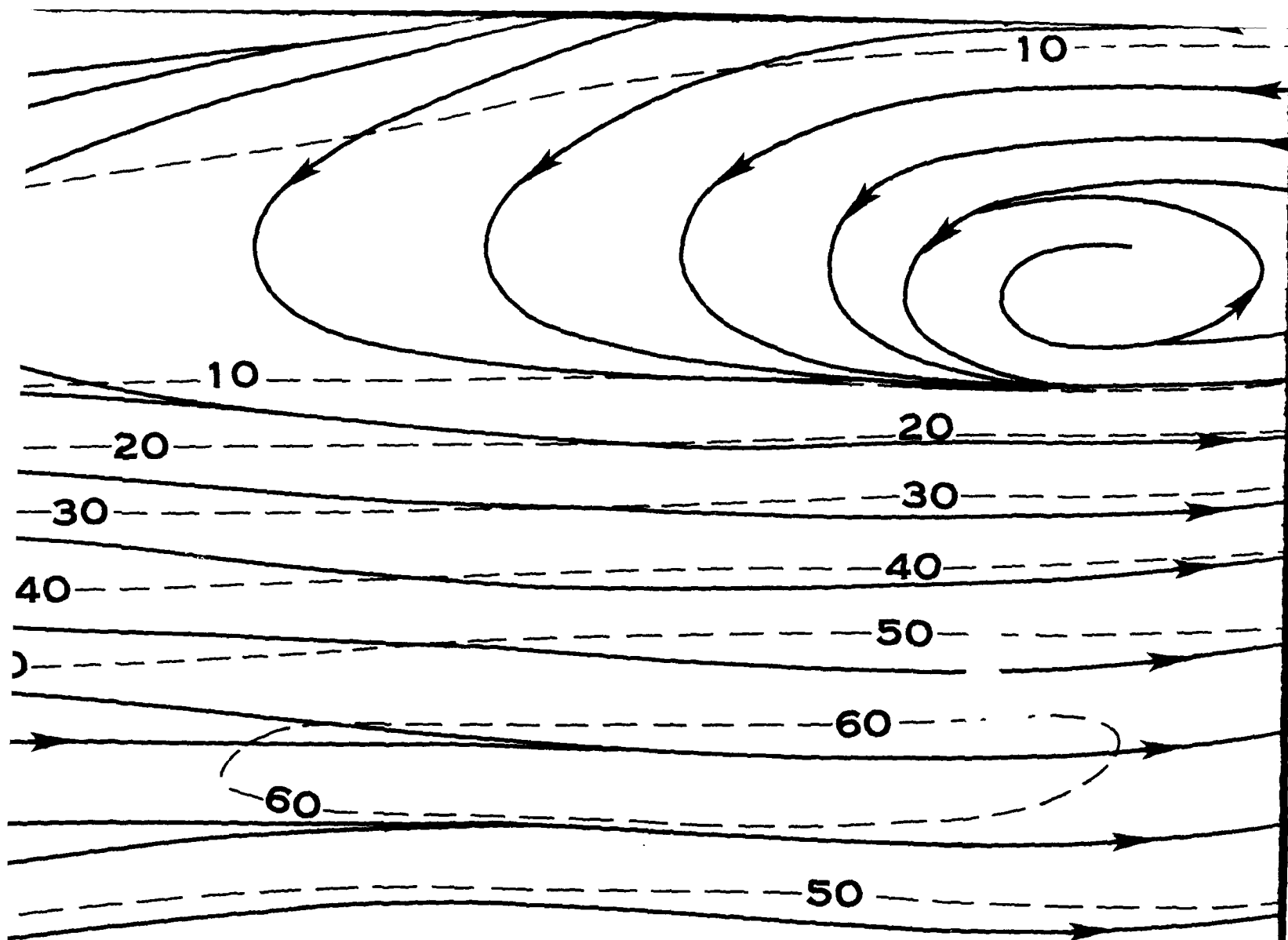


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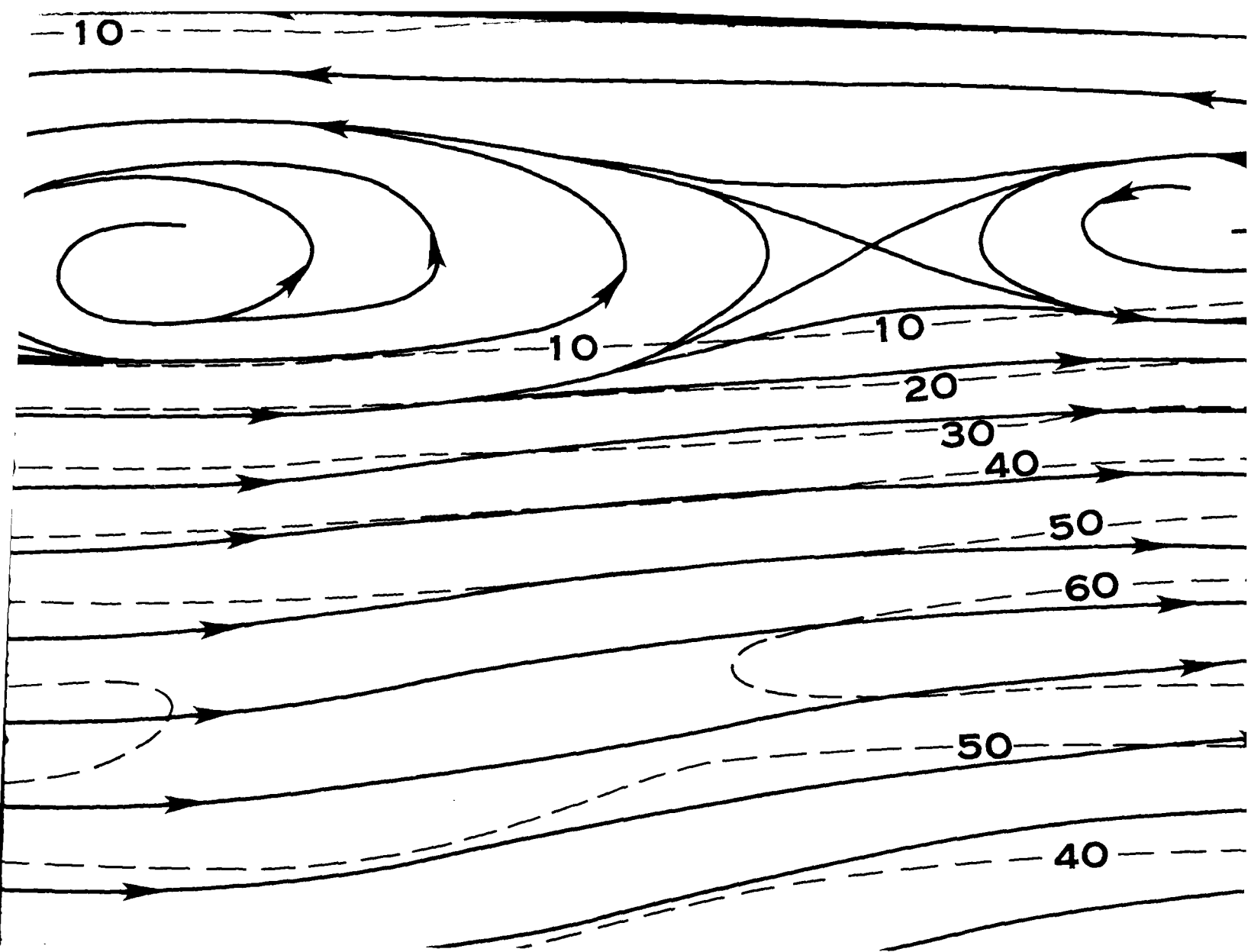




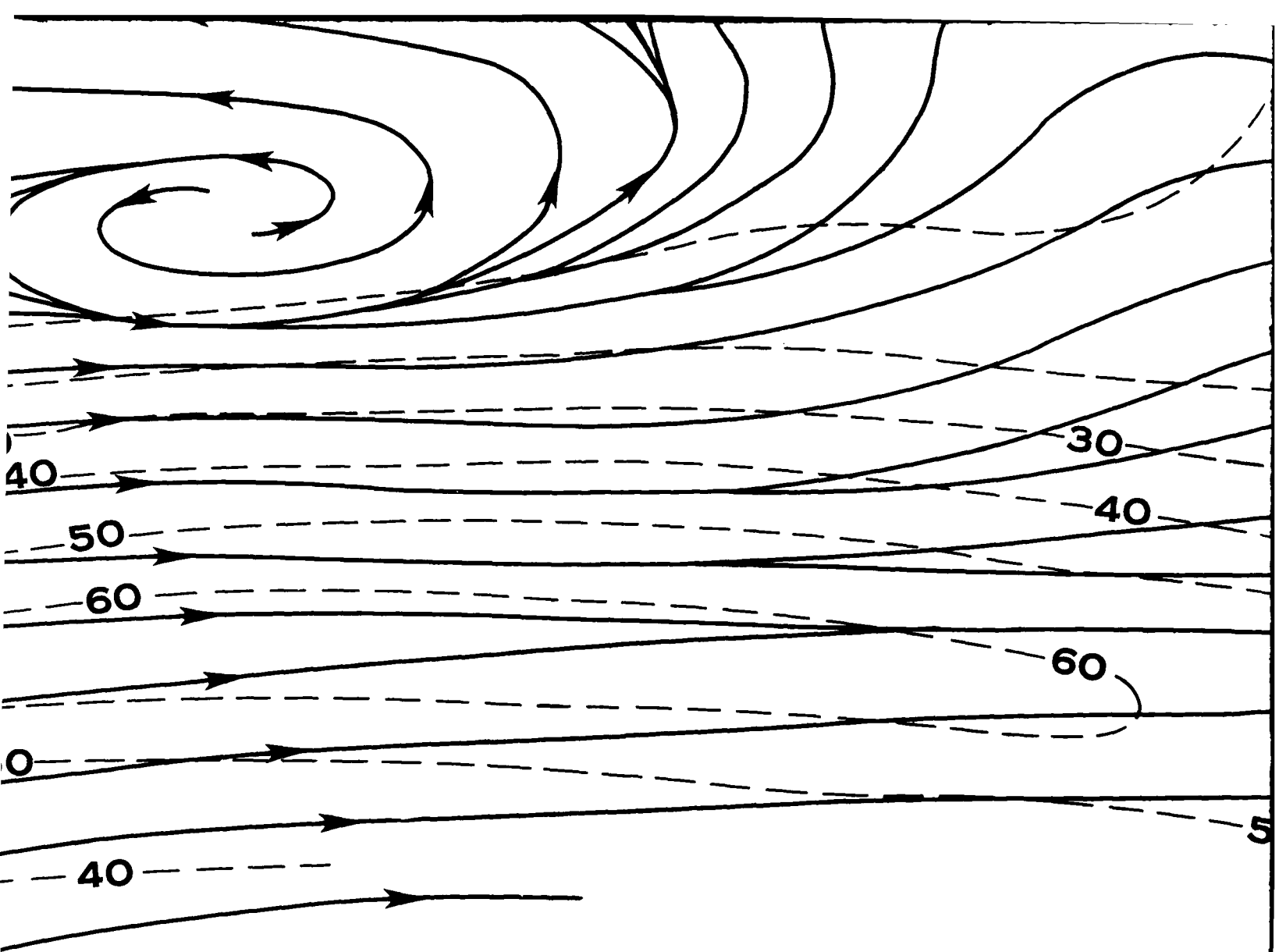
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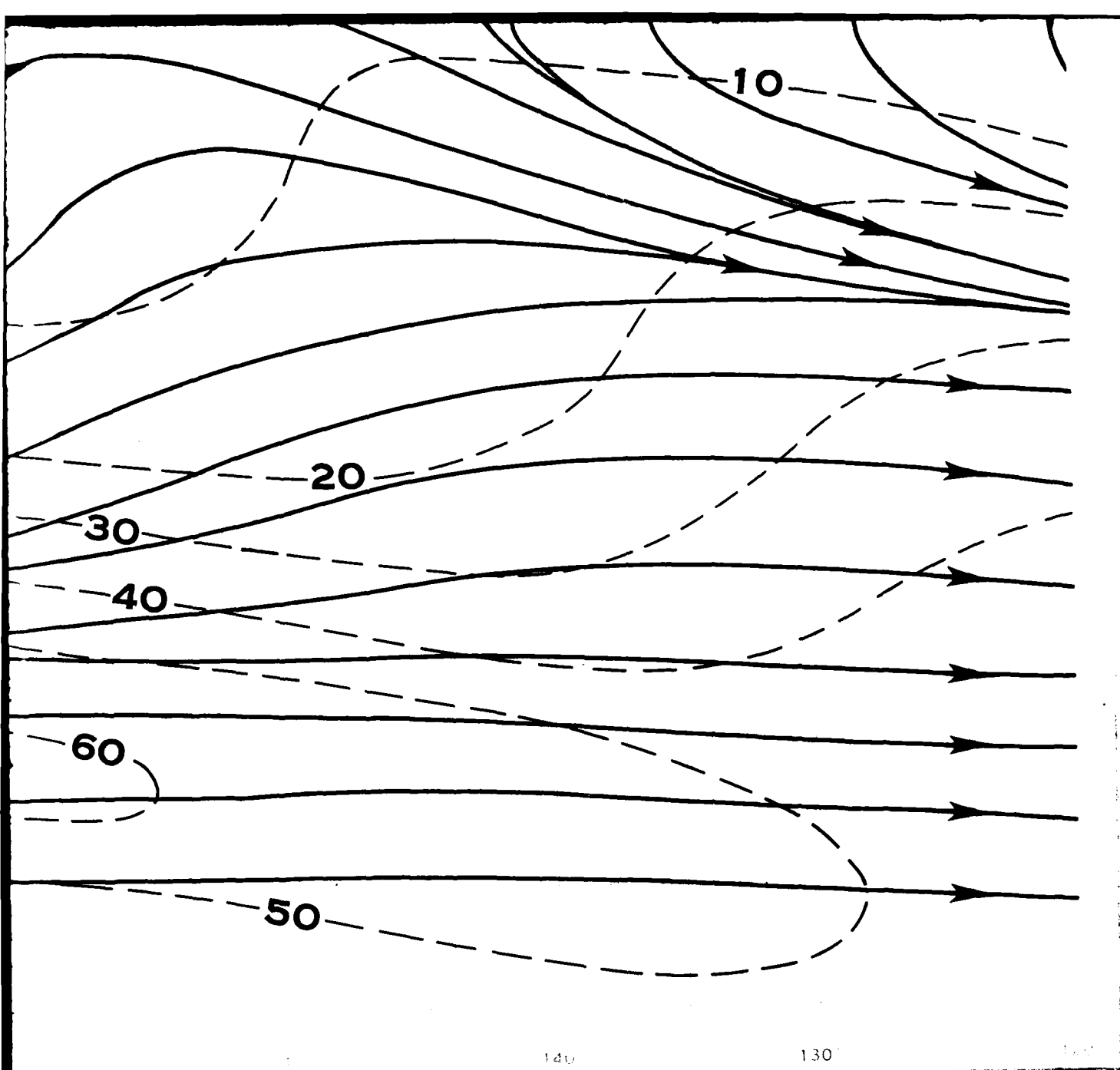
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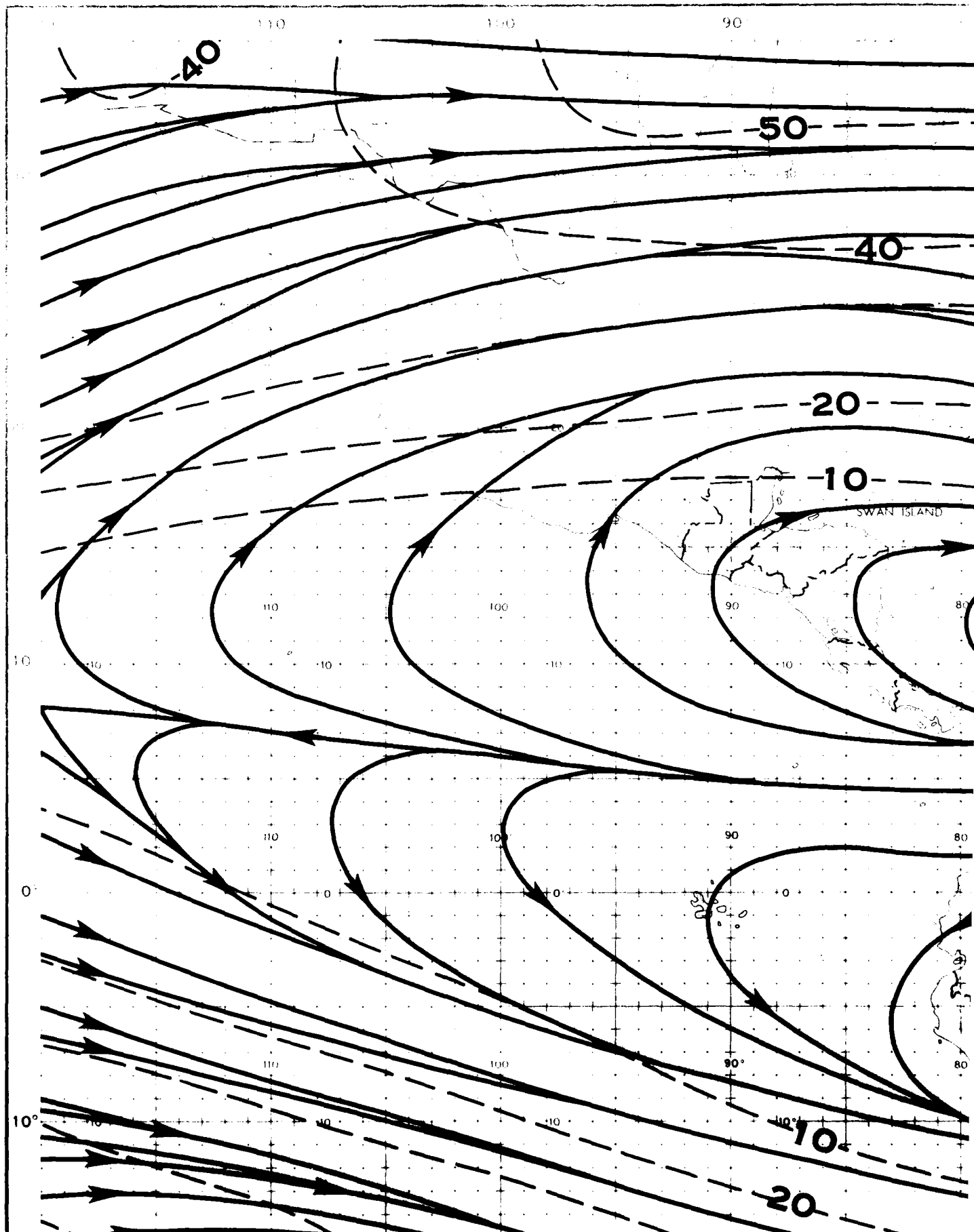


(16)

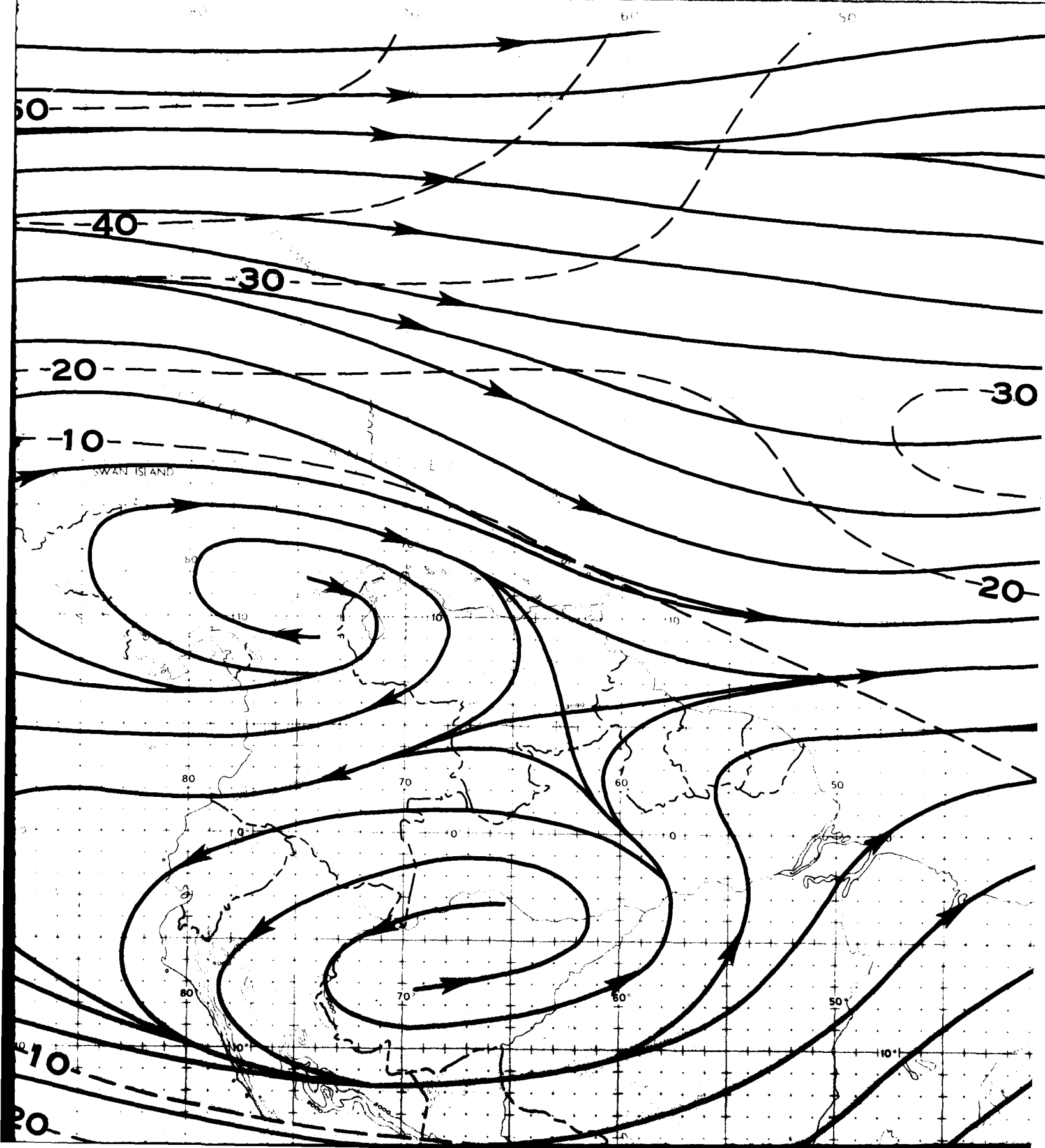
MULW-310E



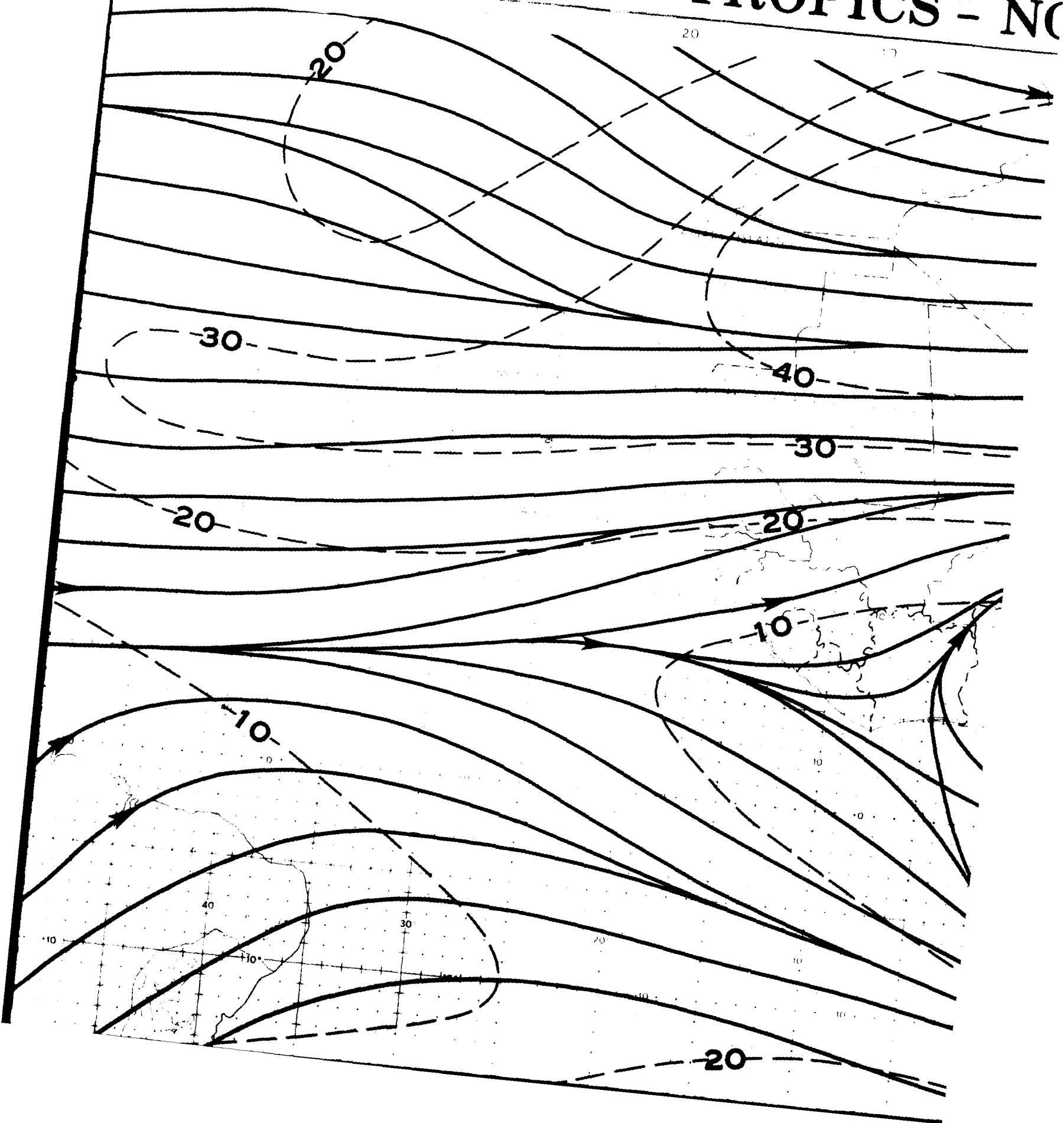
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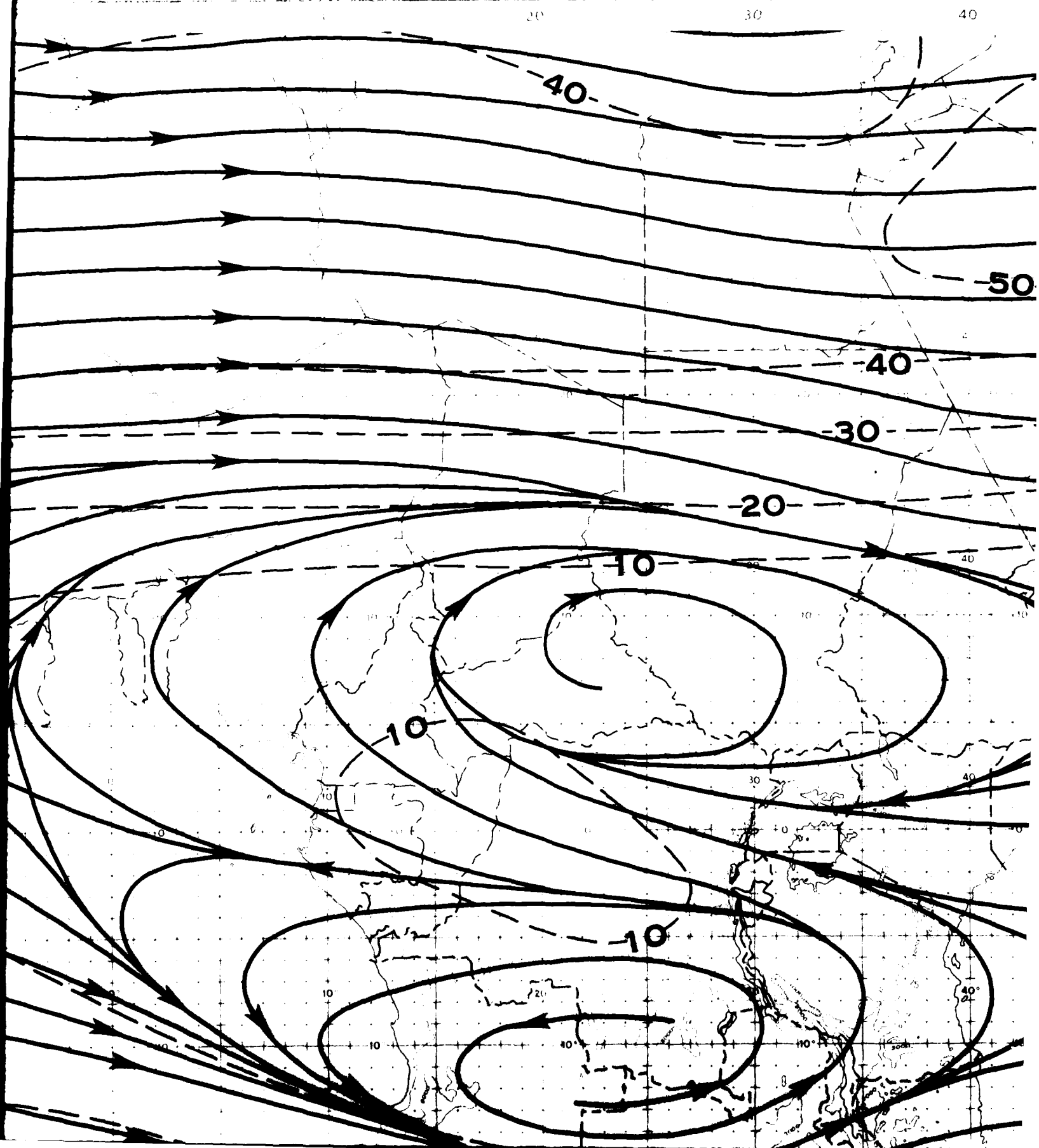
# MEAN UPPER LEVEL <sup>(2)</sup> WINDS



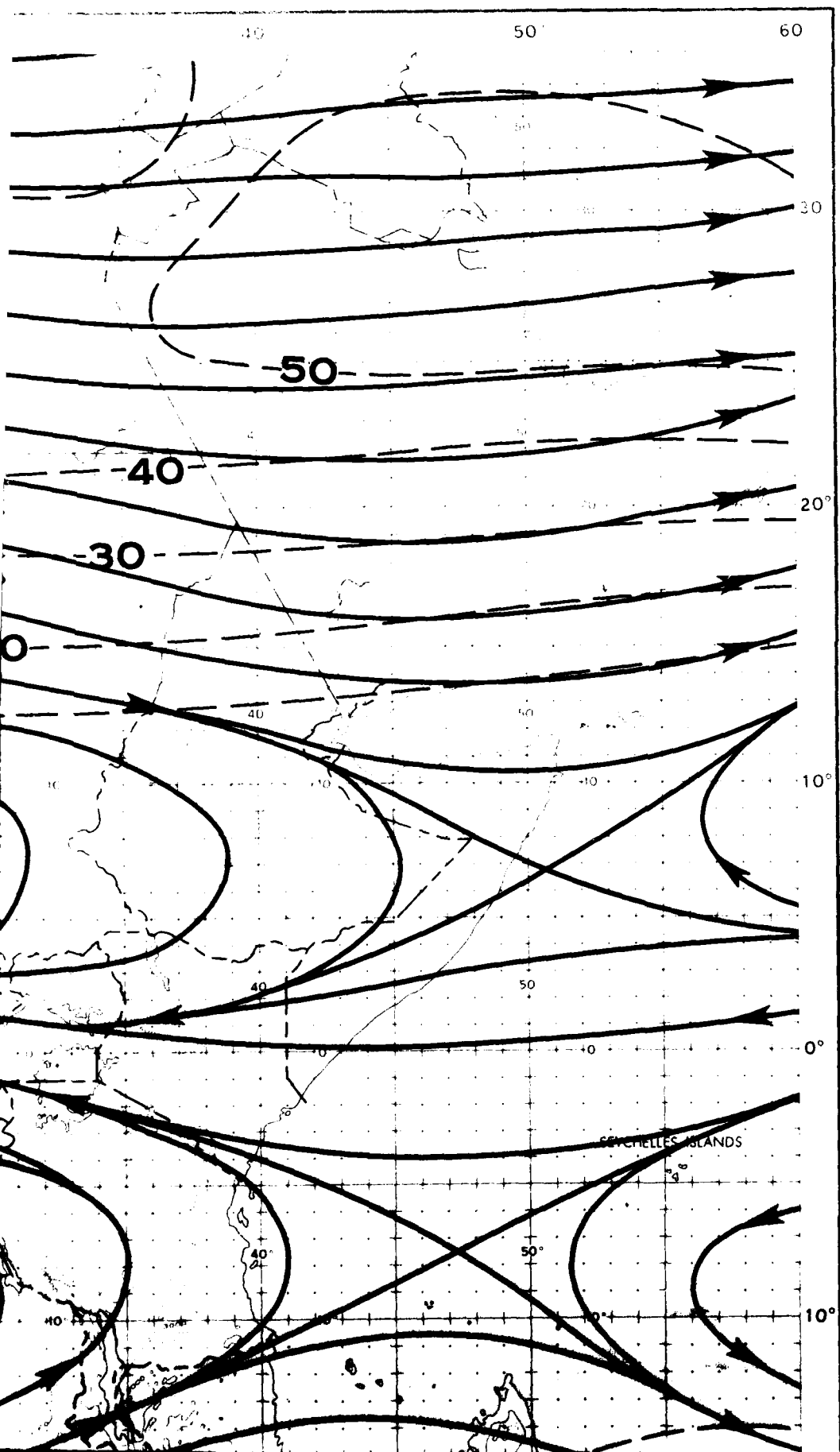
# WINDS over GLOBAL TROPICS - NC

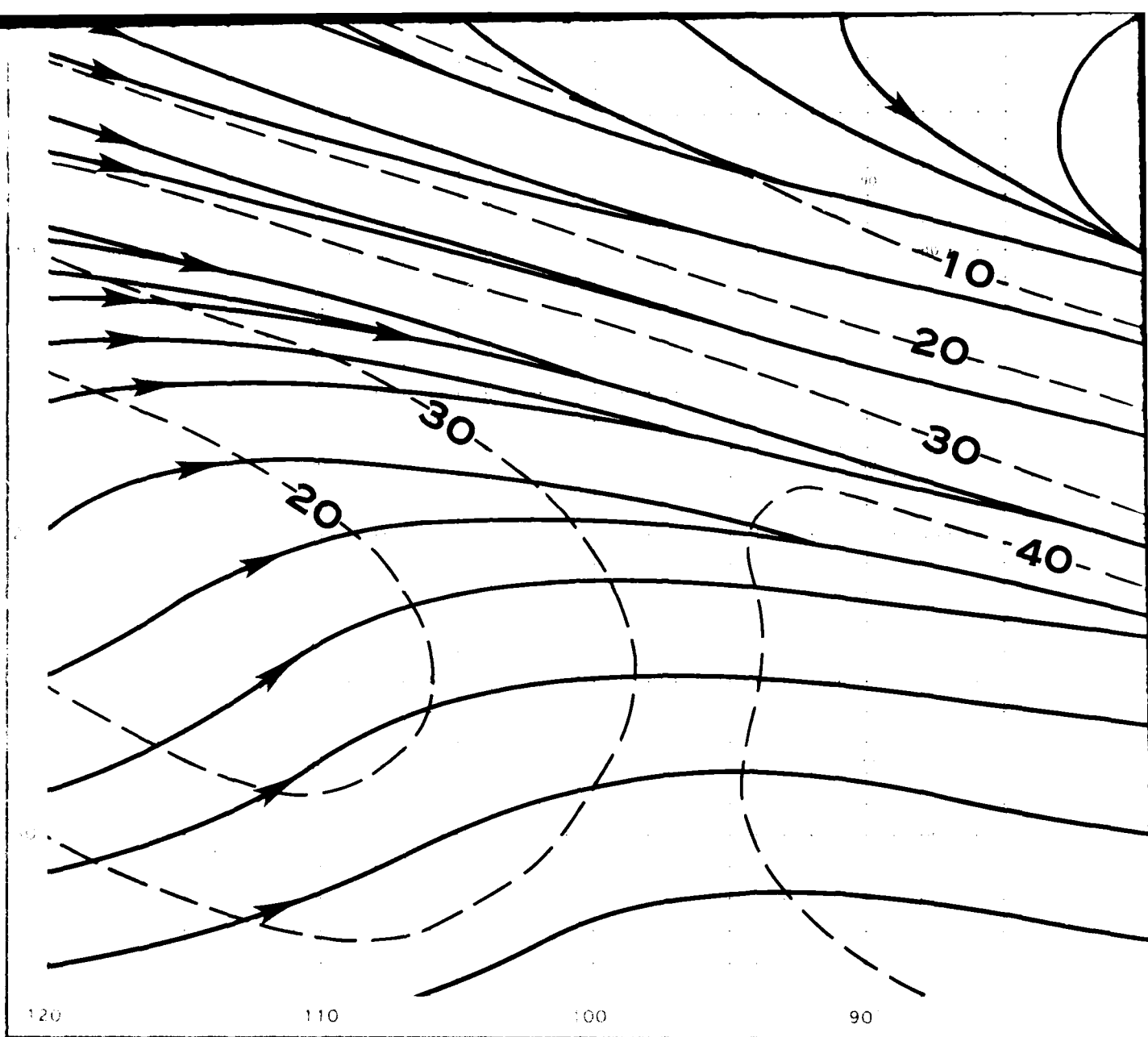


# NOVEMBER 300mb

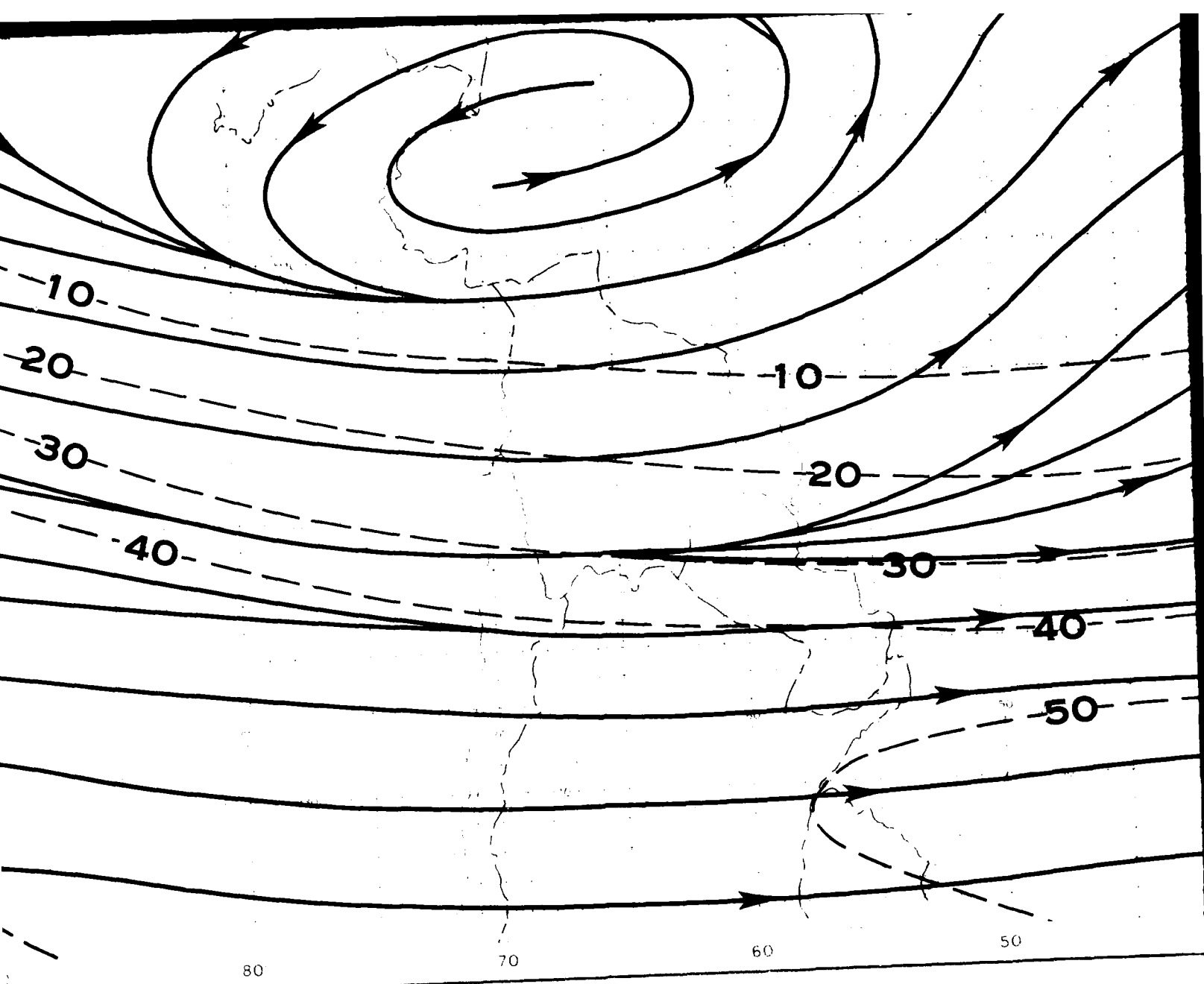


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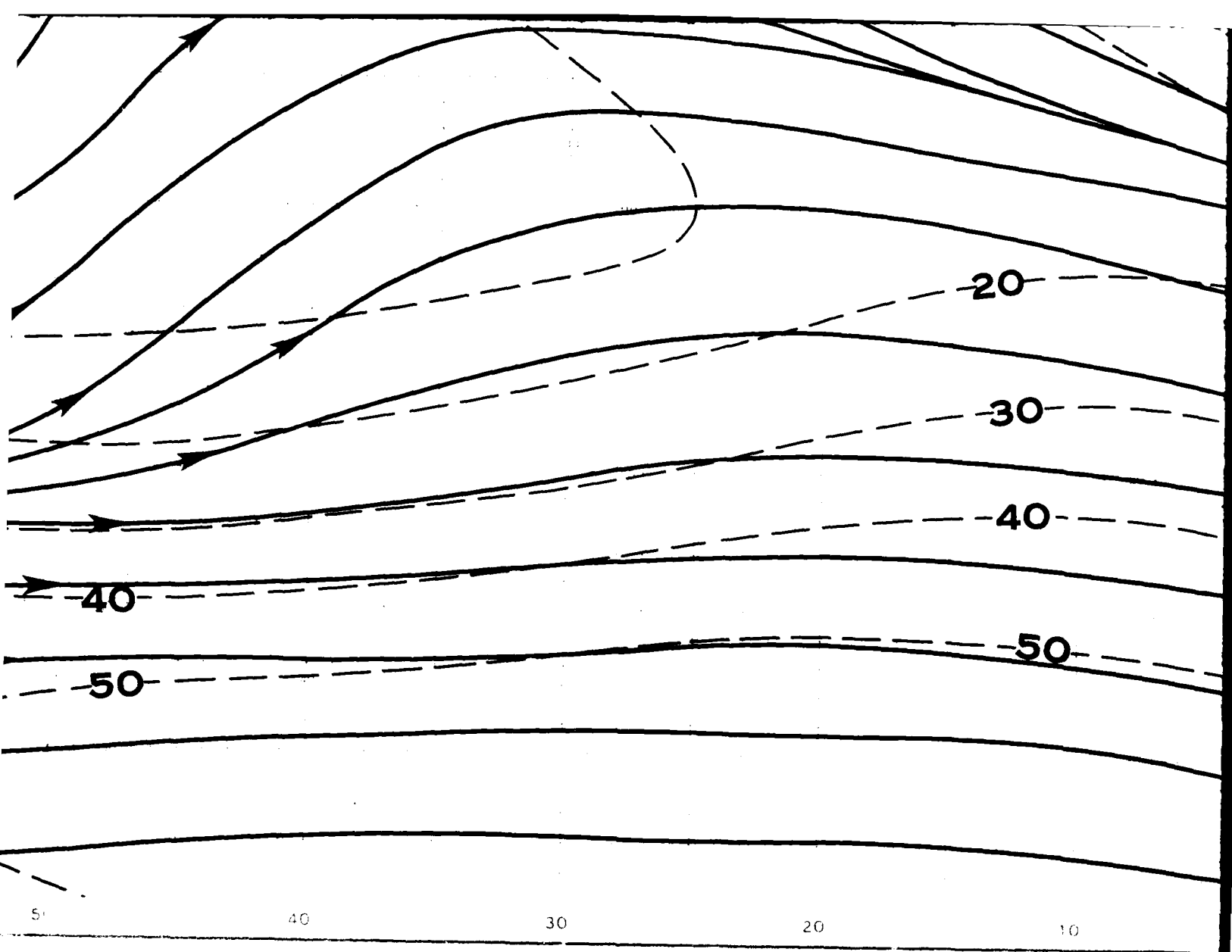




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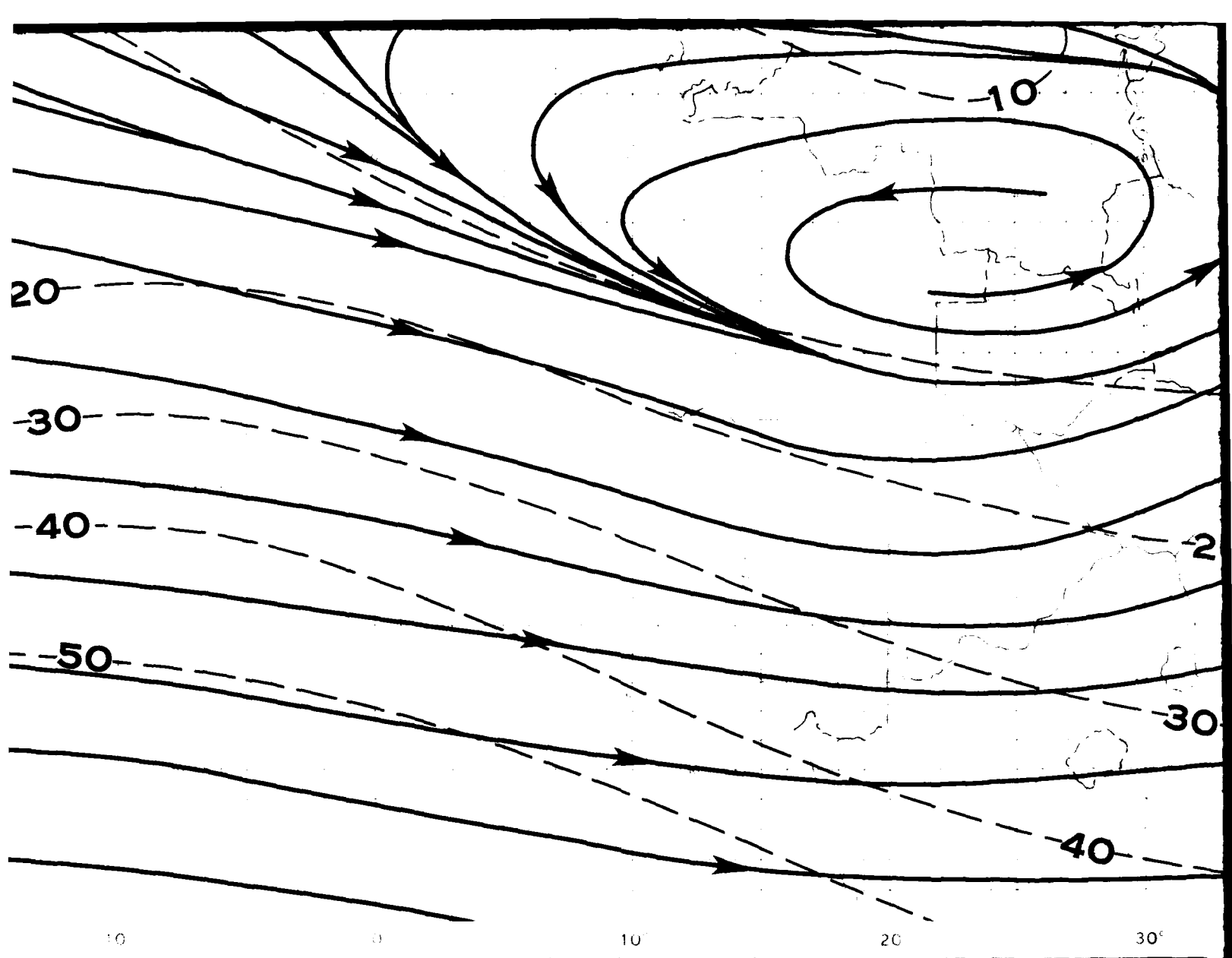
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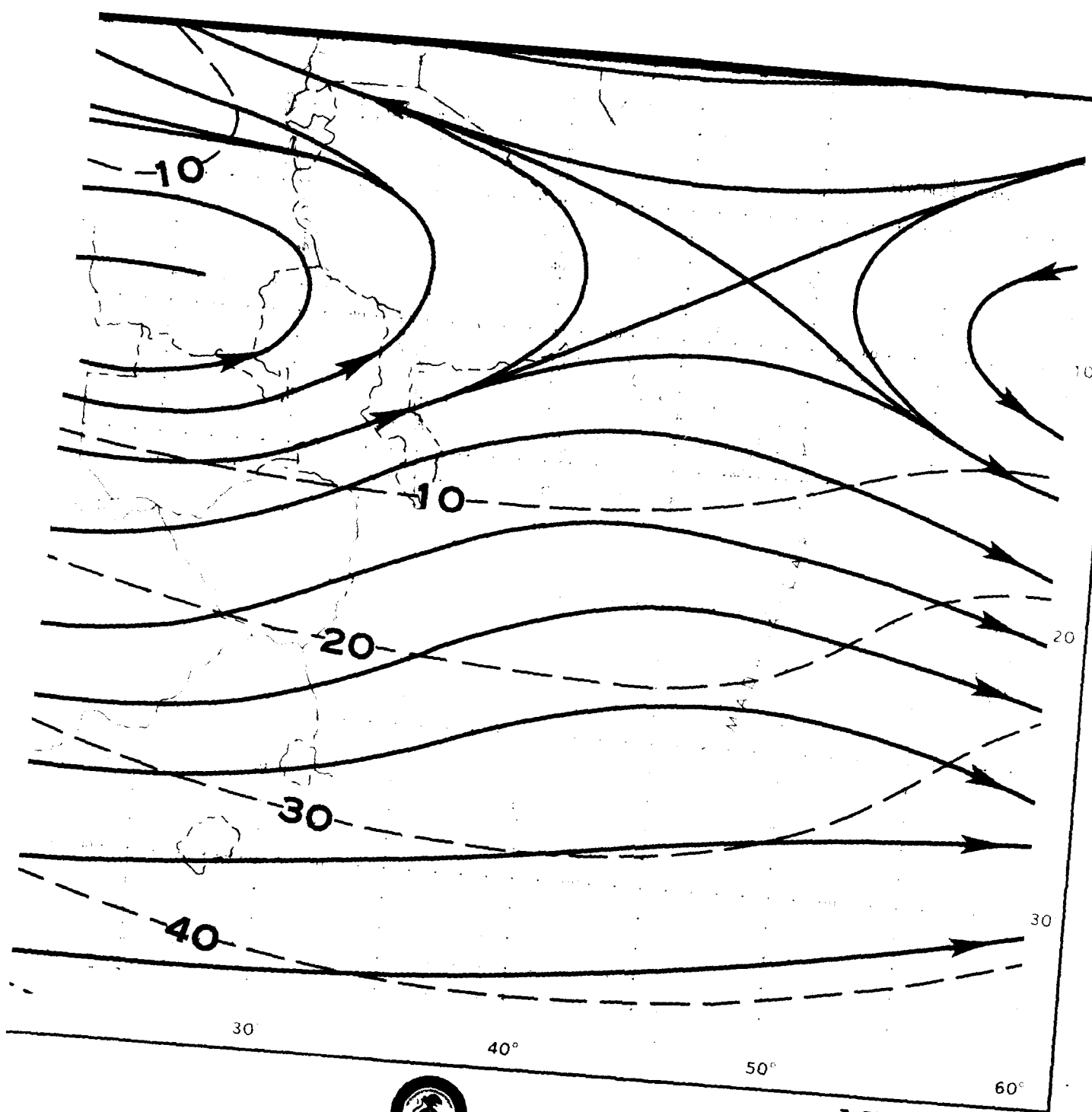
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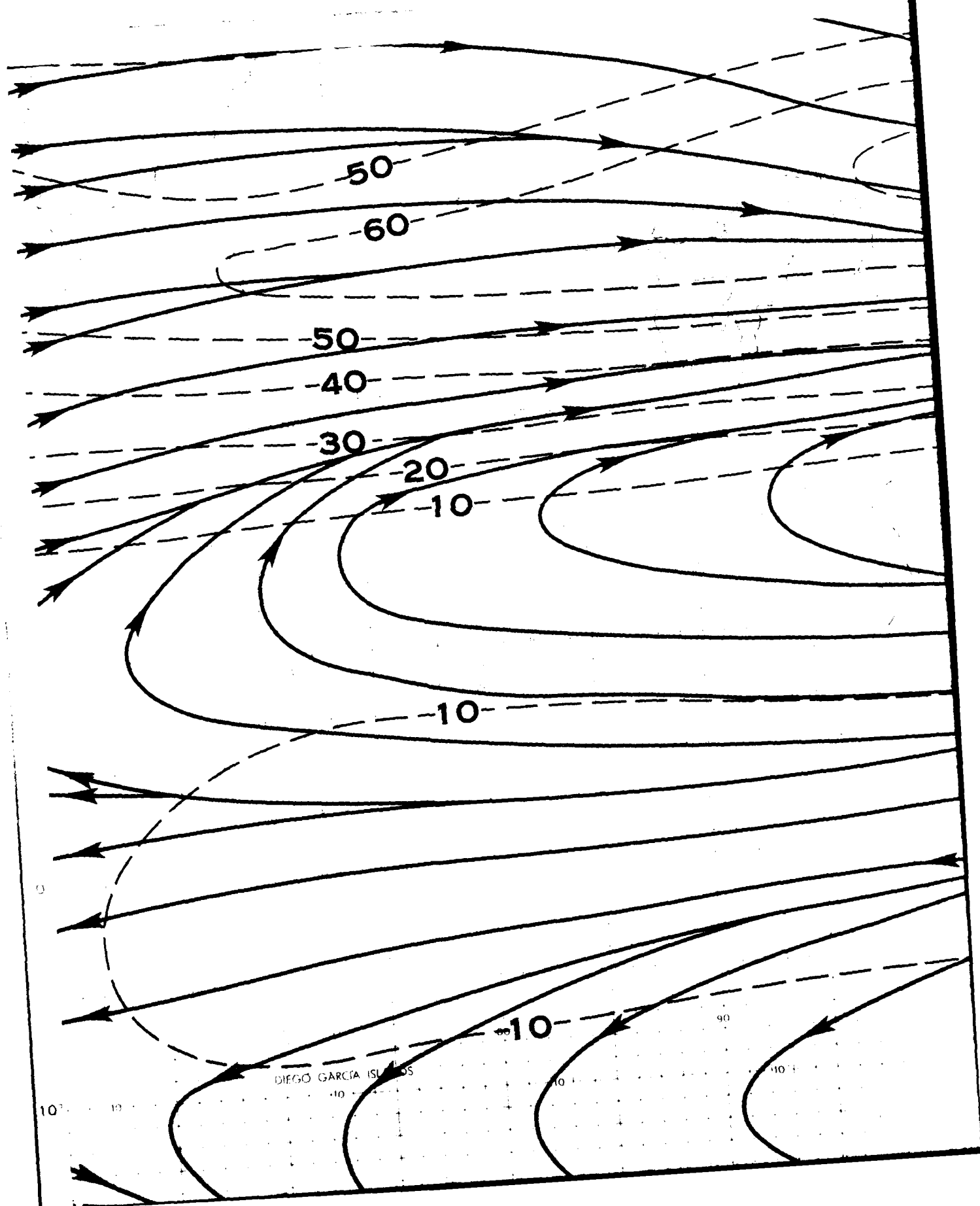


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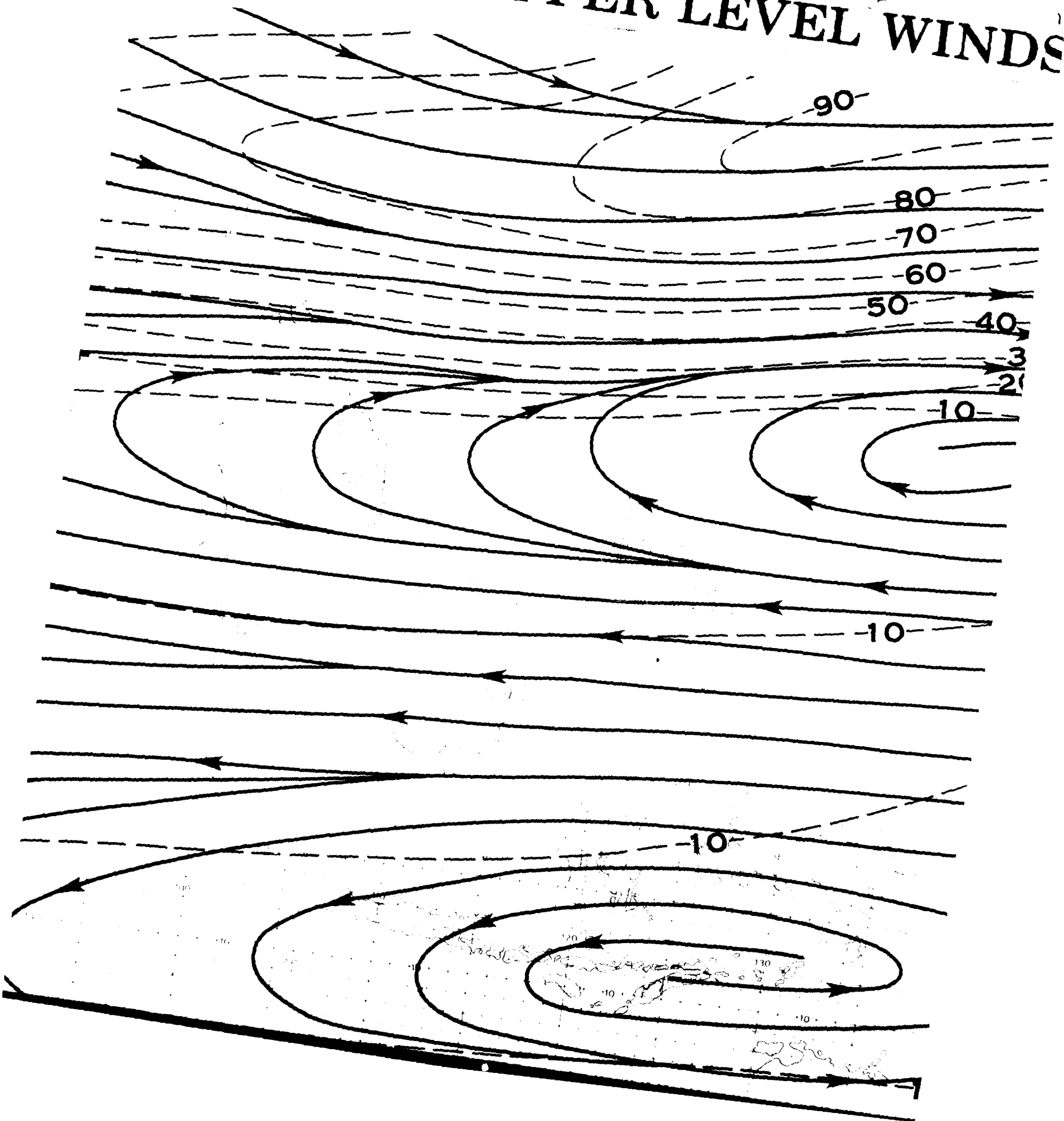


MULW-311W

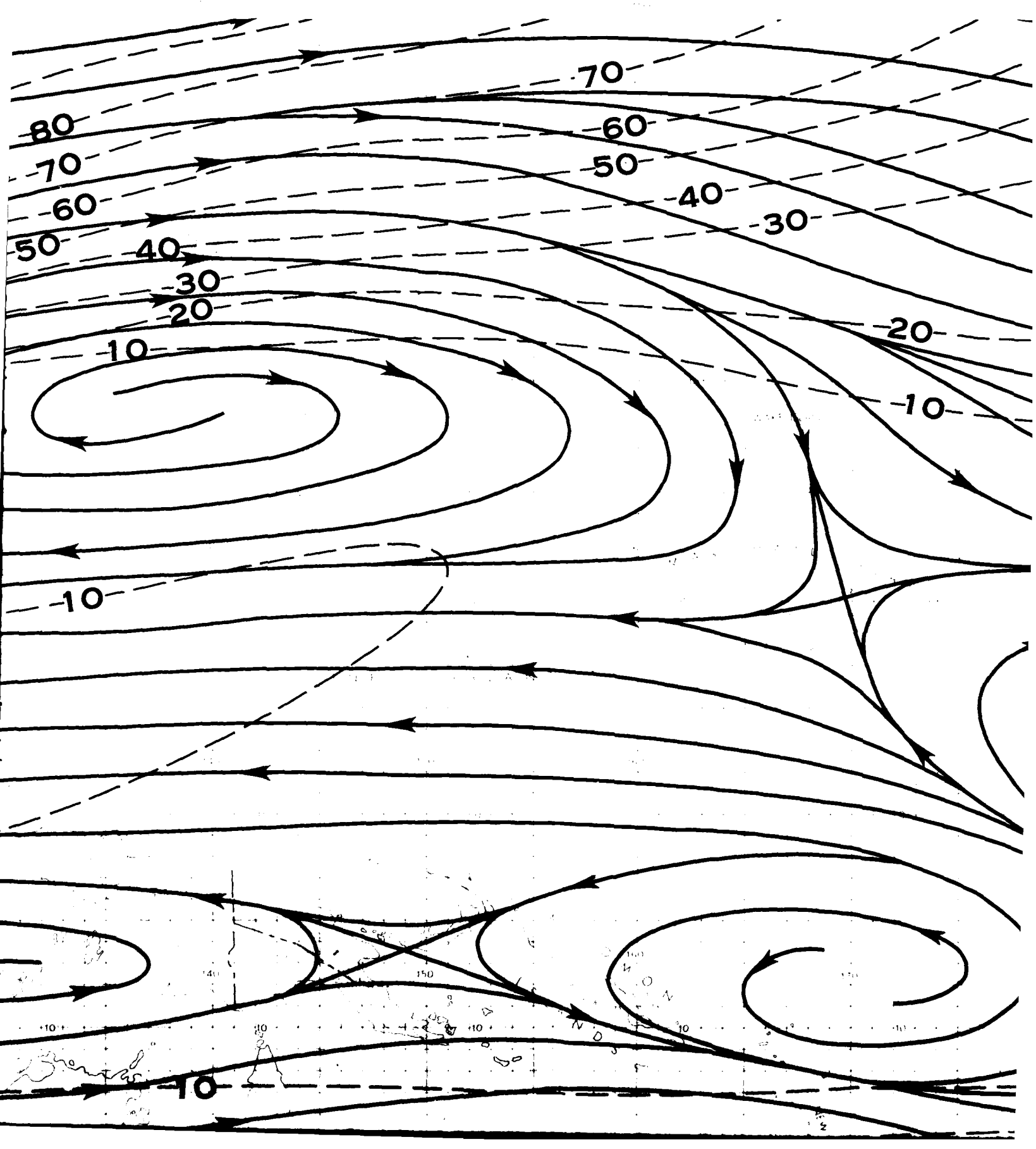
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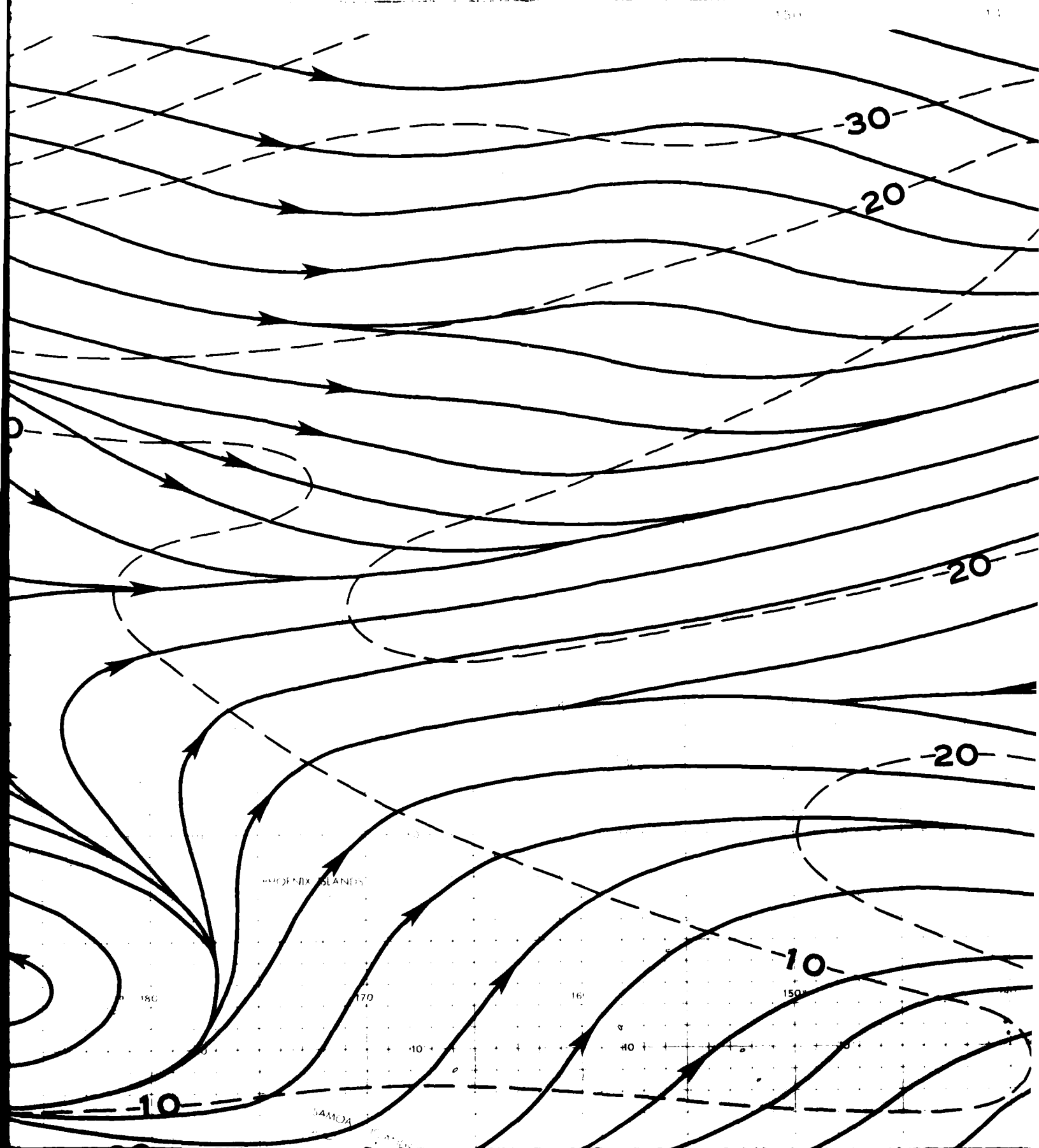
# MEAN UPPER LEVEL WINDS

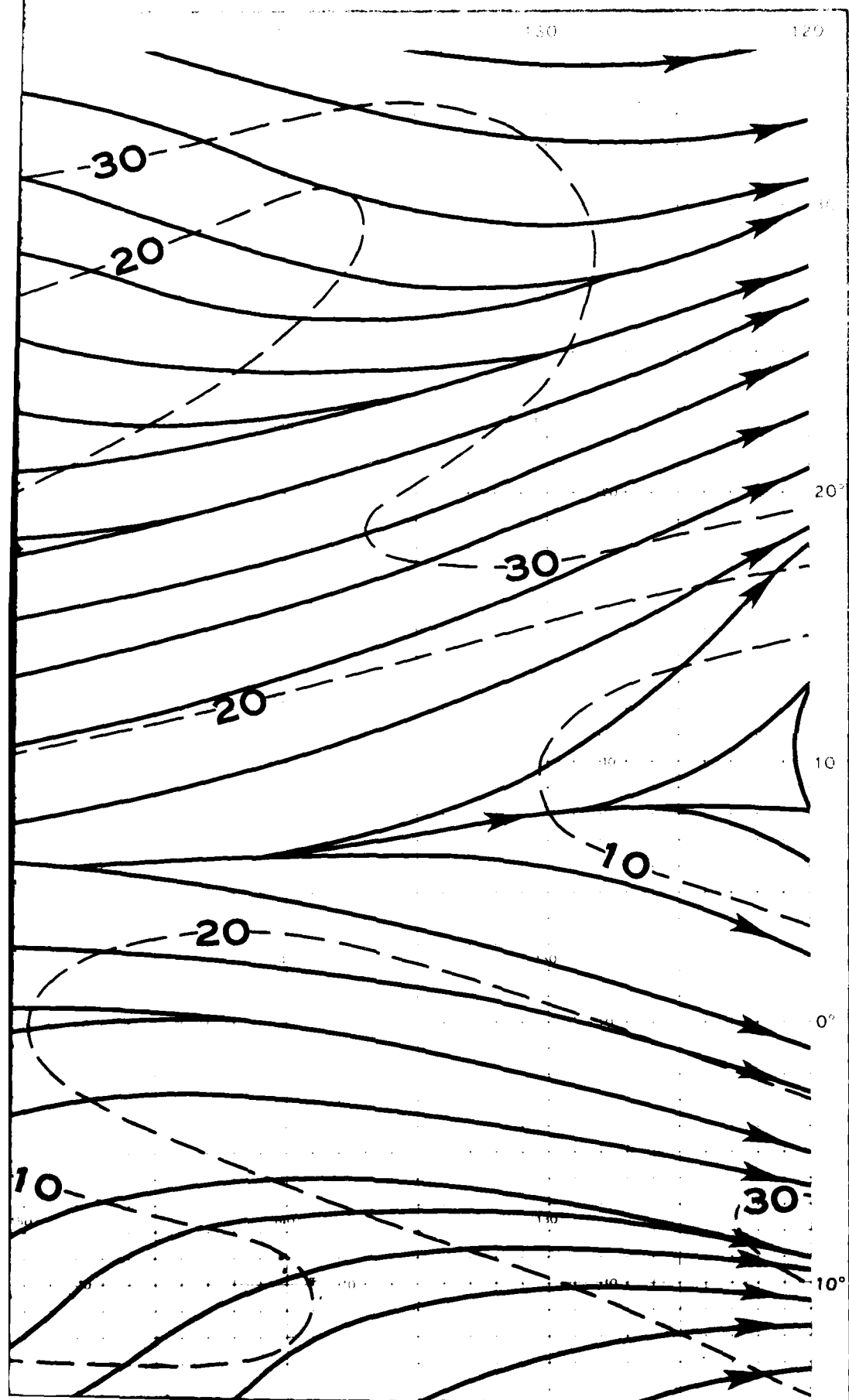


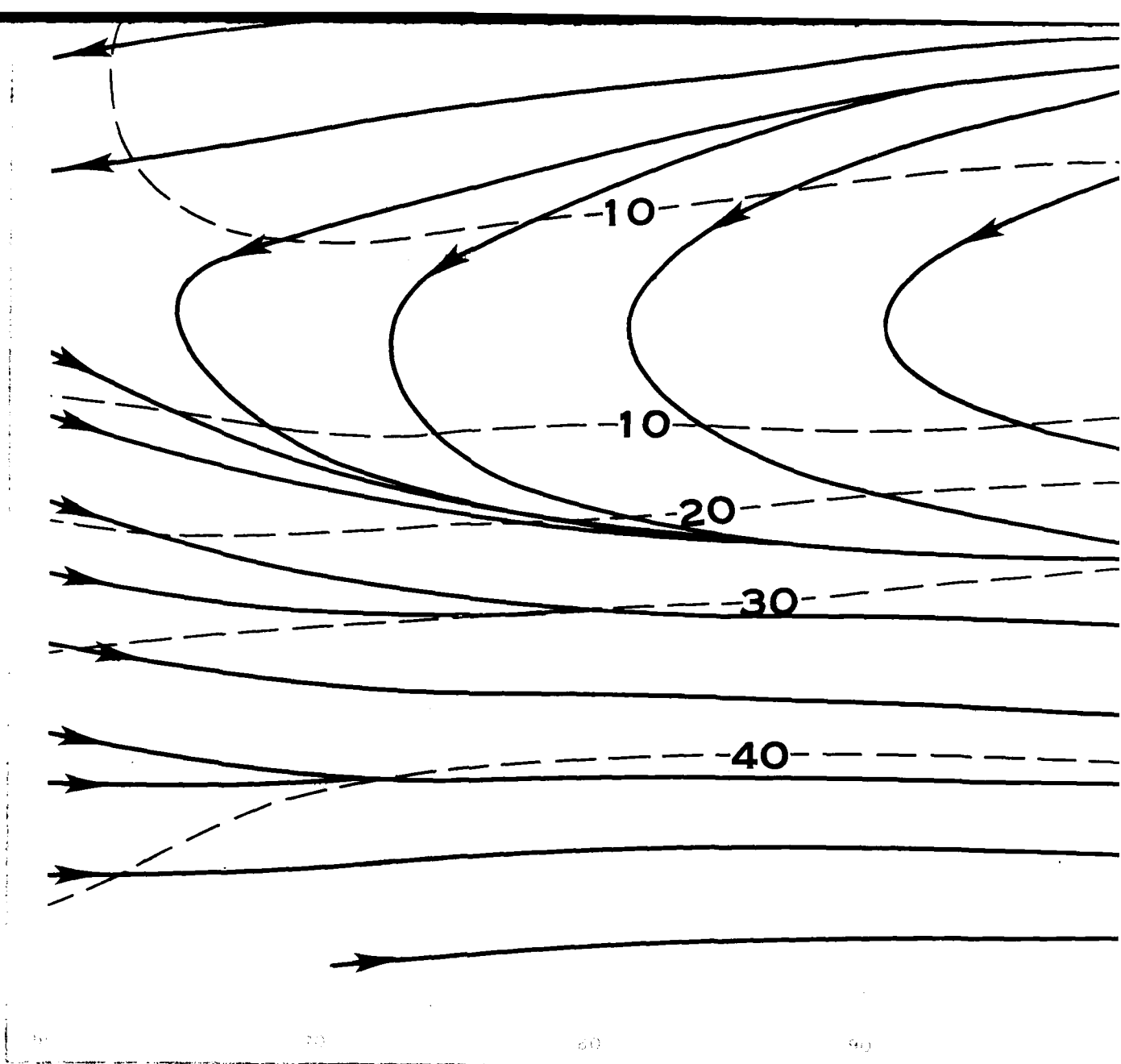
# VINDS over GLOBAL TROPICS - NO



# NOVEMBER 300mb

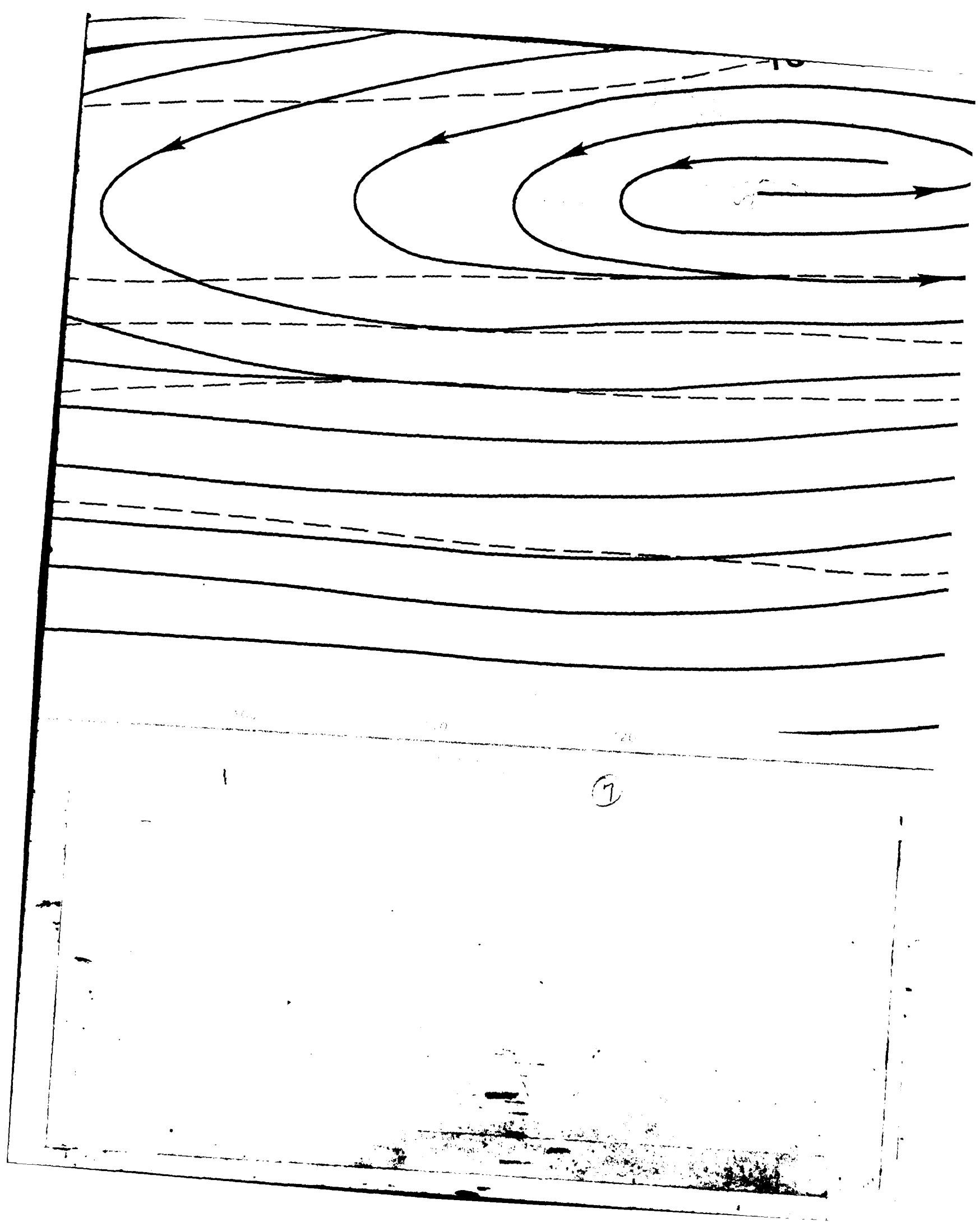






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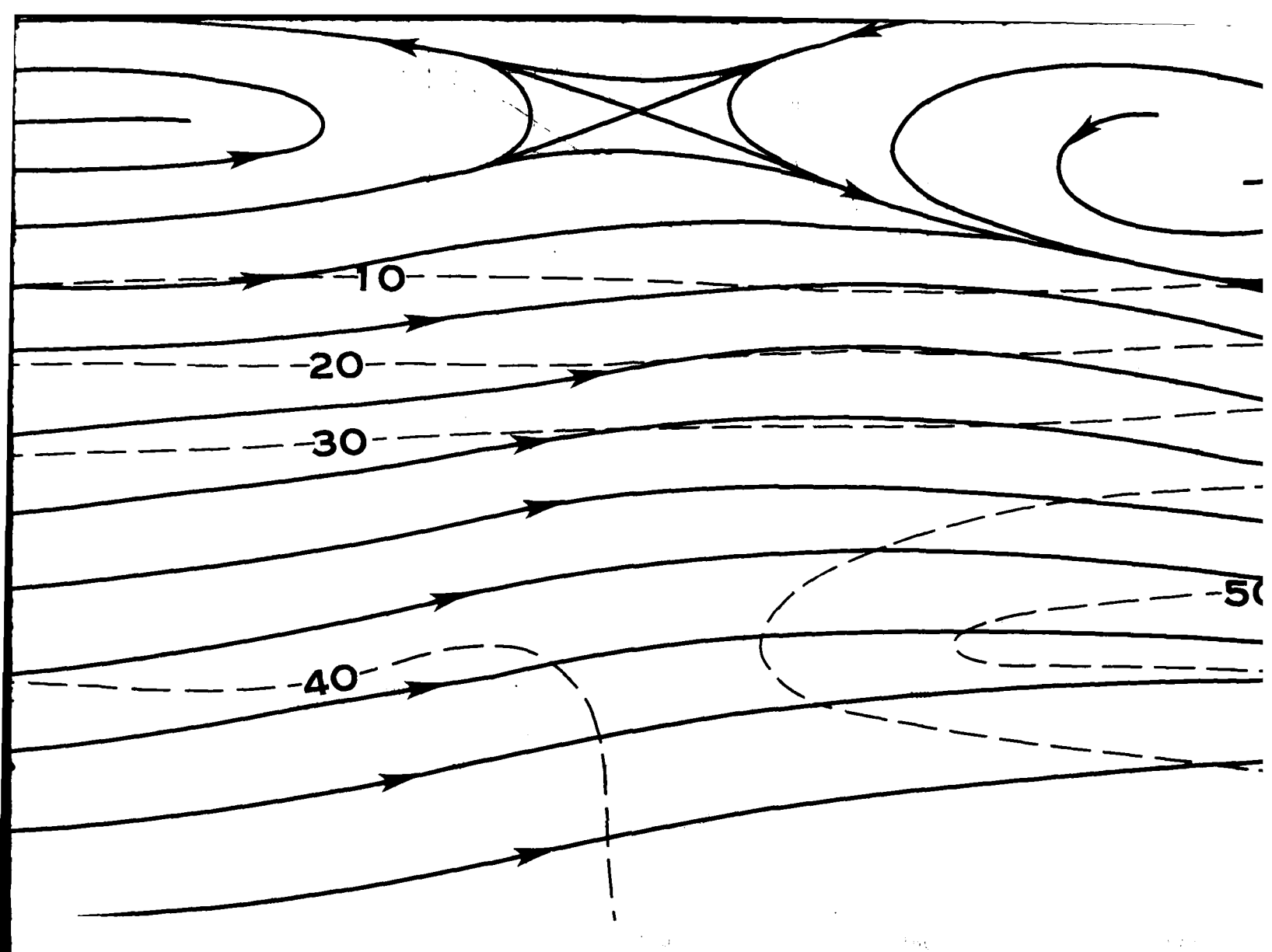
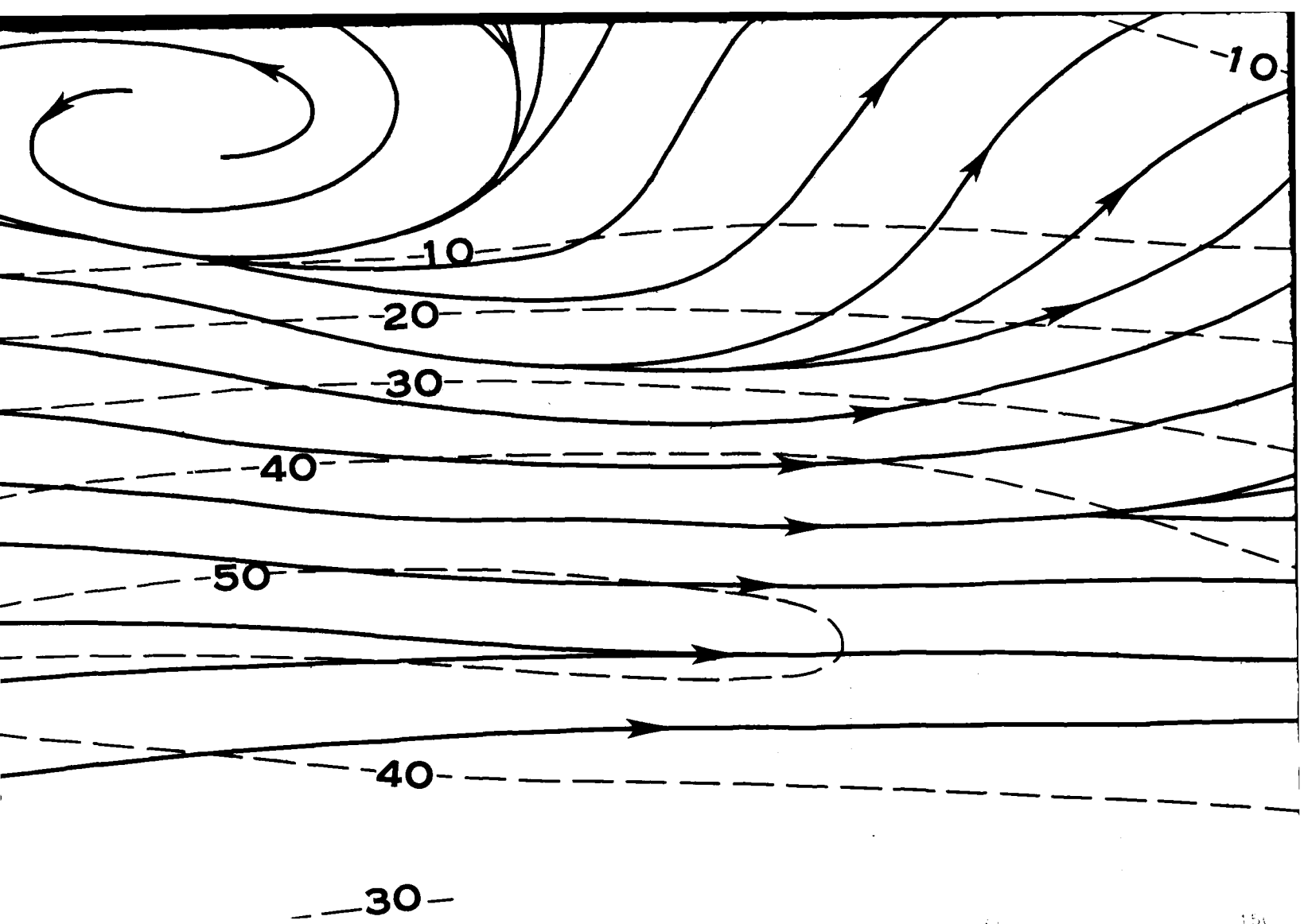
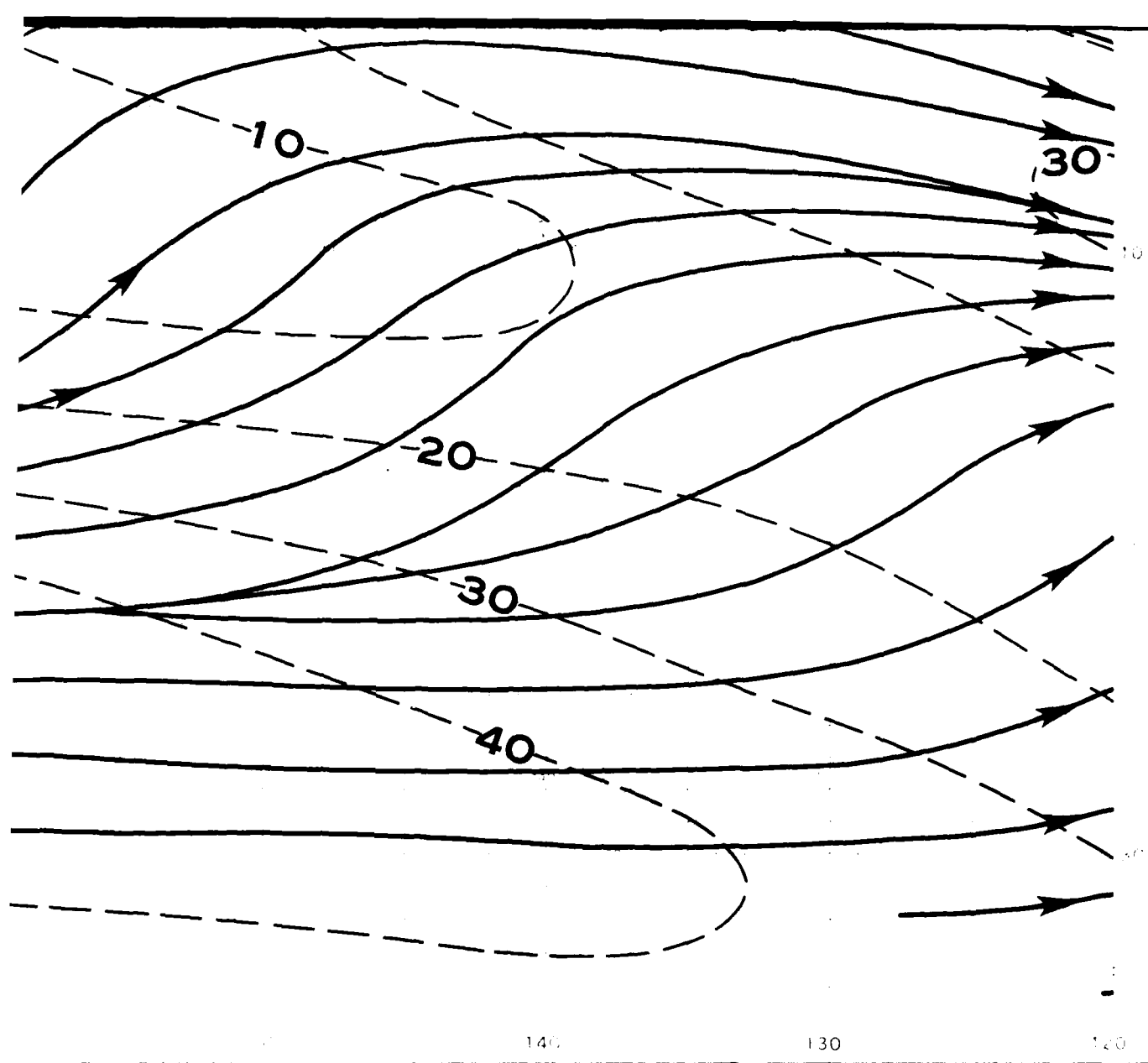


Figure 1

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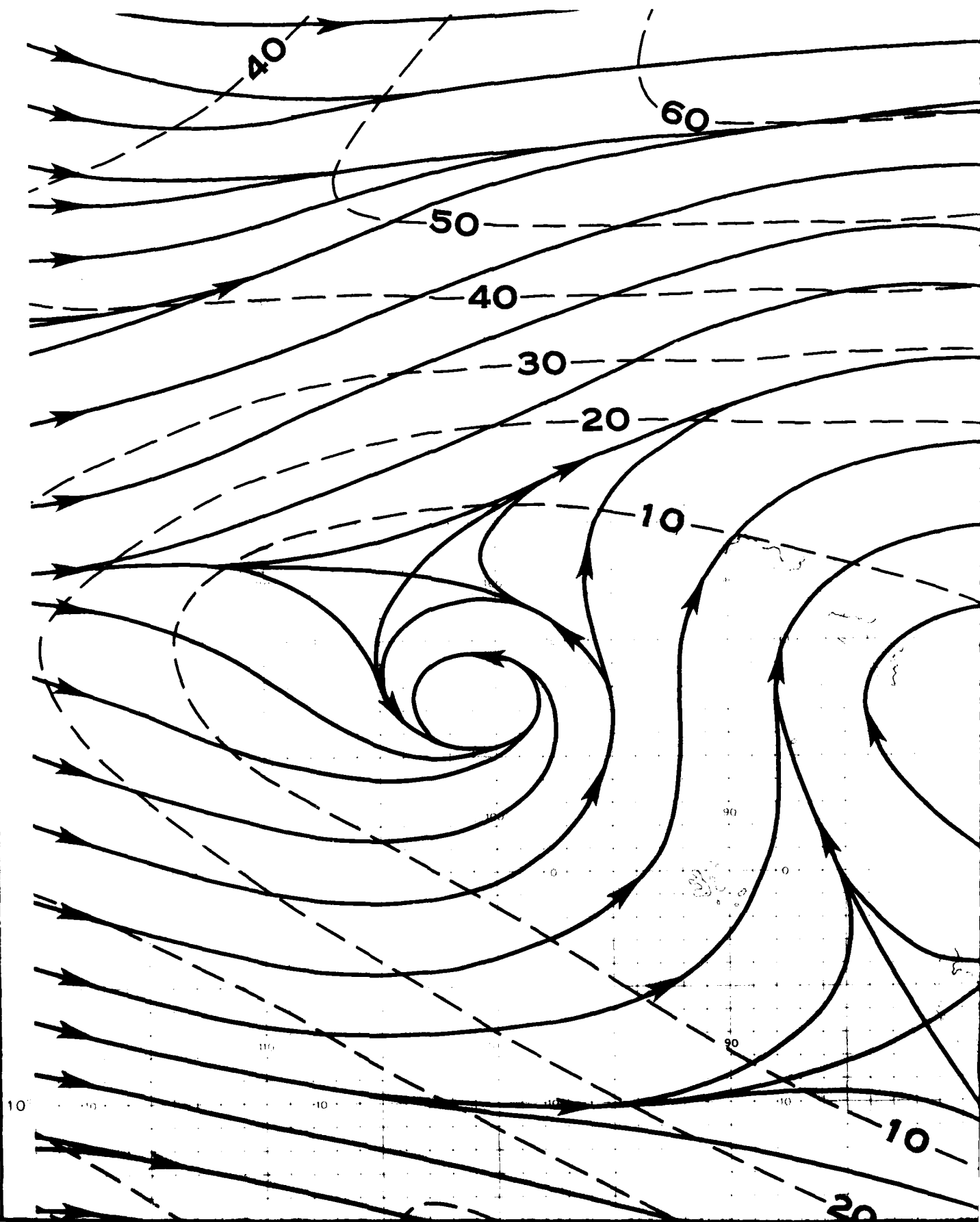


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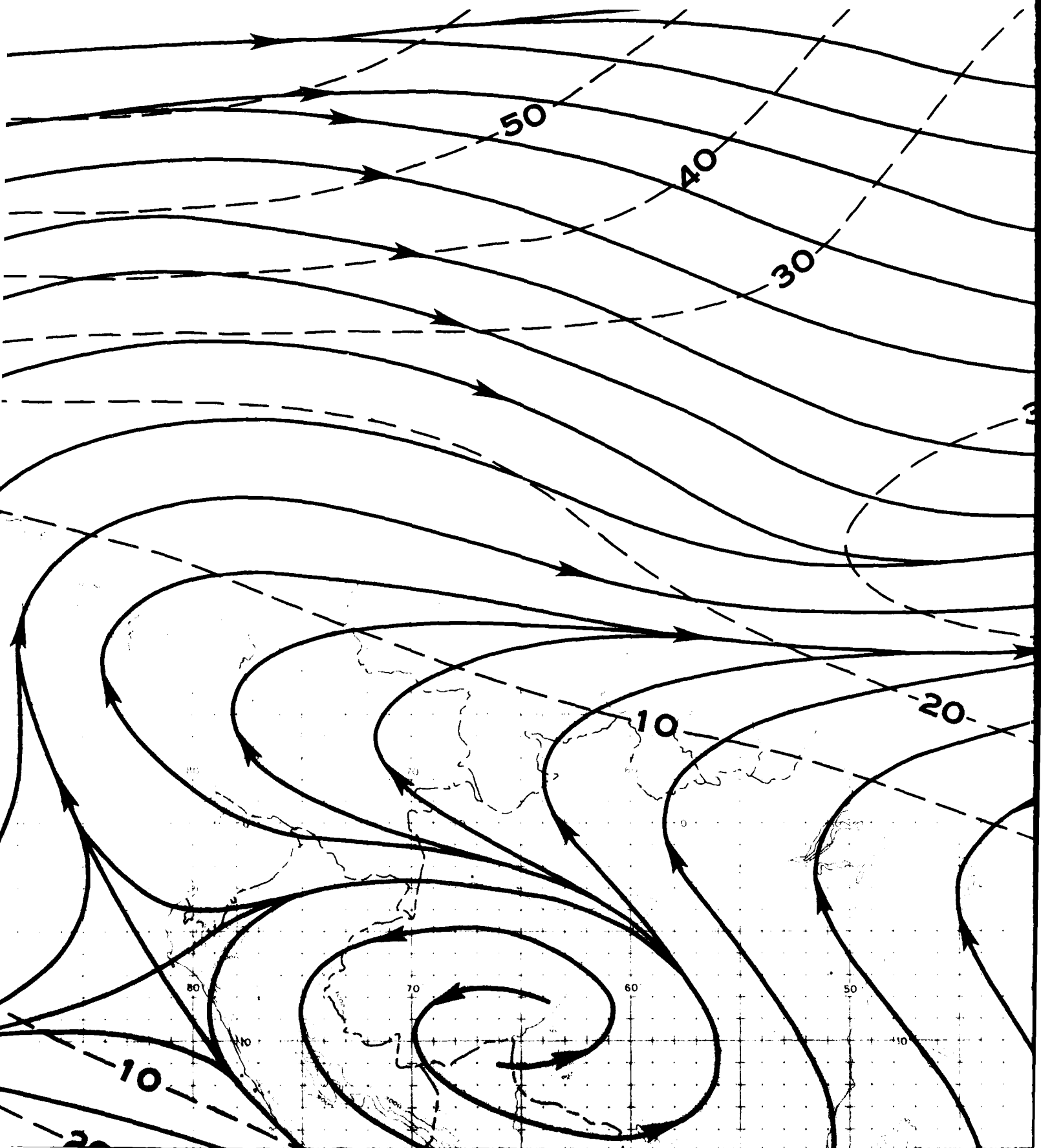


MULW-311E

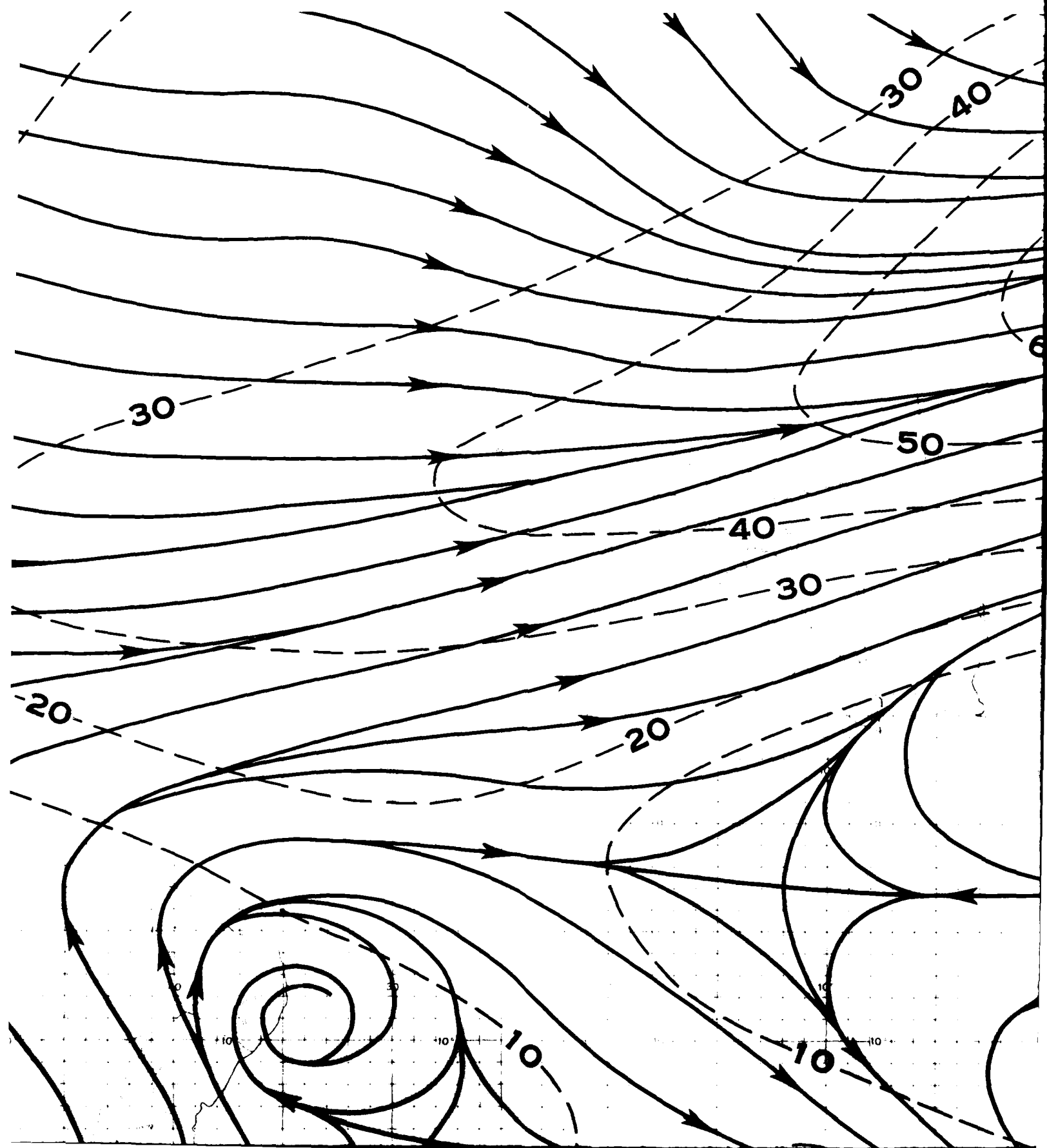
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# MEAN UPPER LEVEL WIND

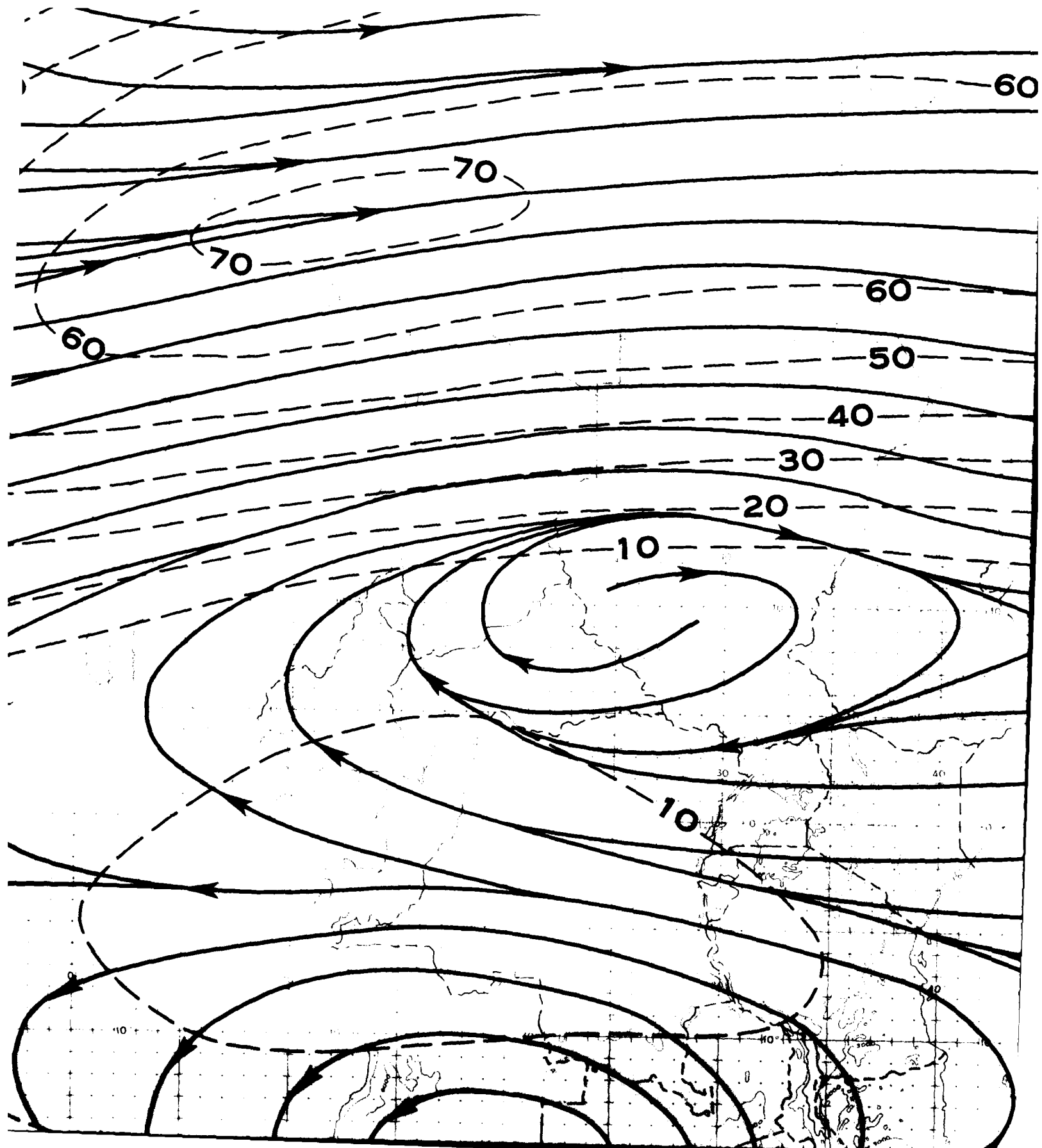


# WINDS over GLOBAL TROPICS - DE



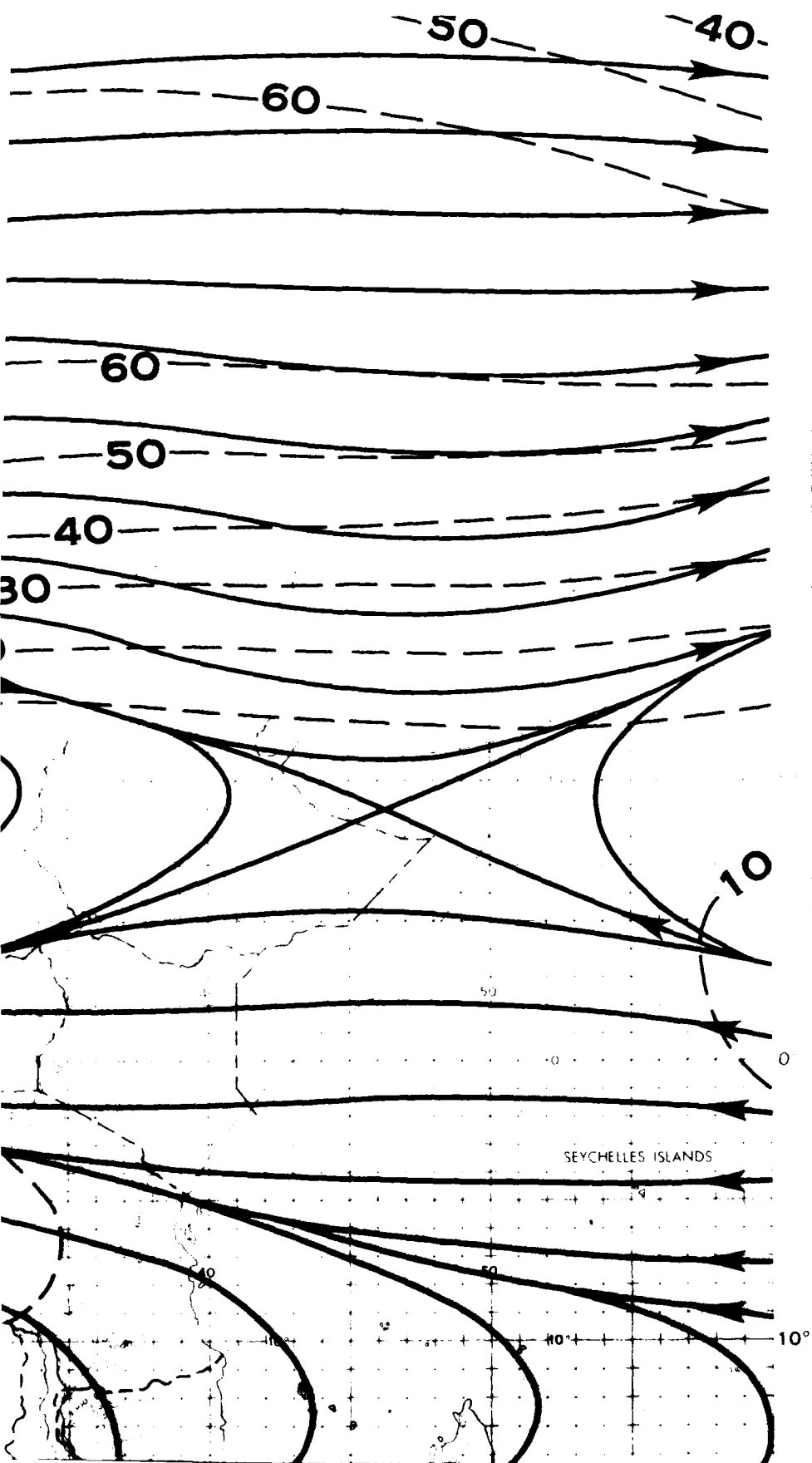
# DECEMBER 300 mb

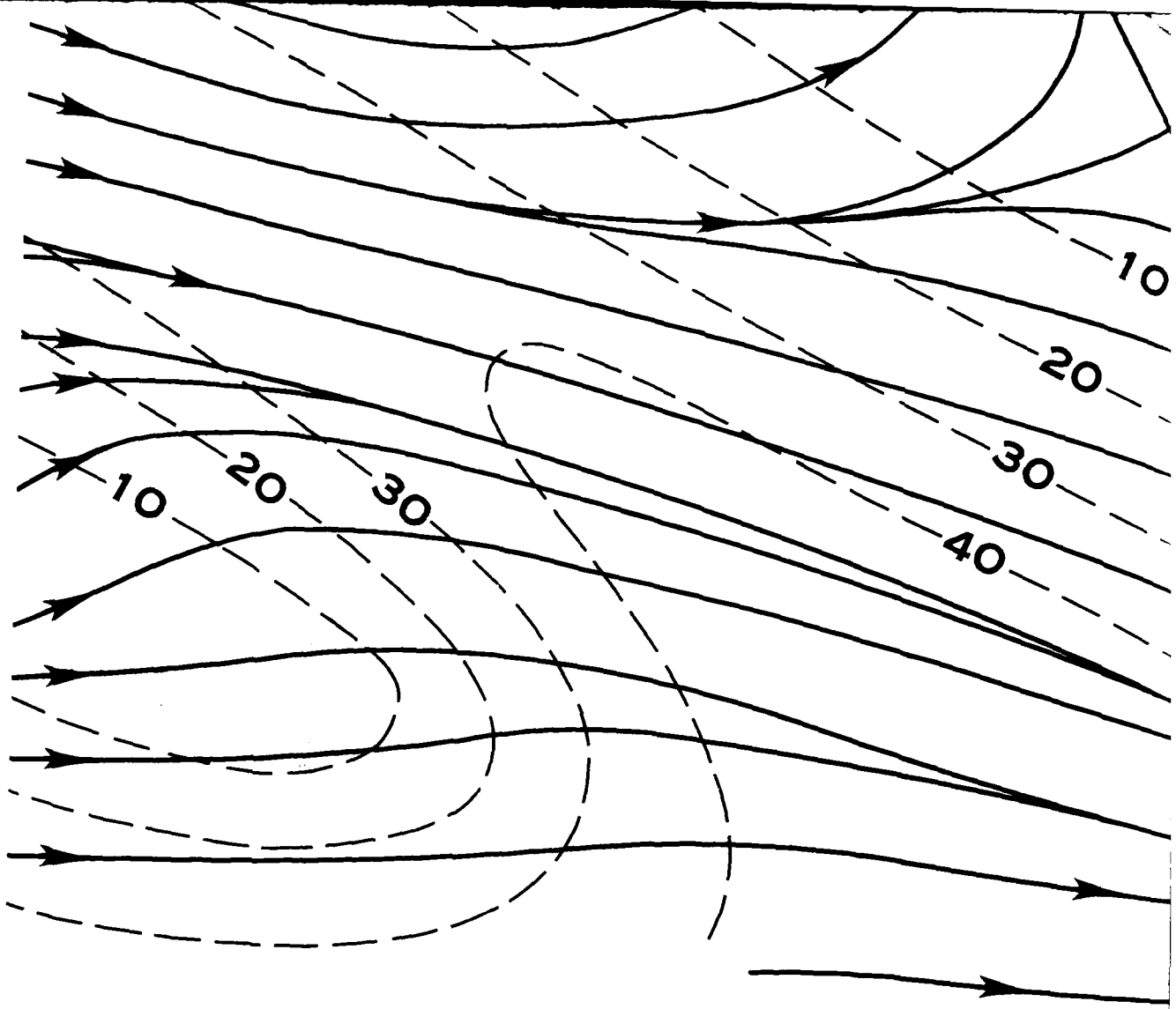
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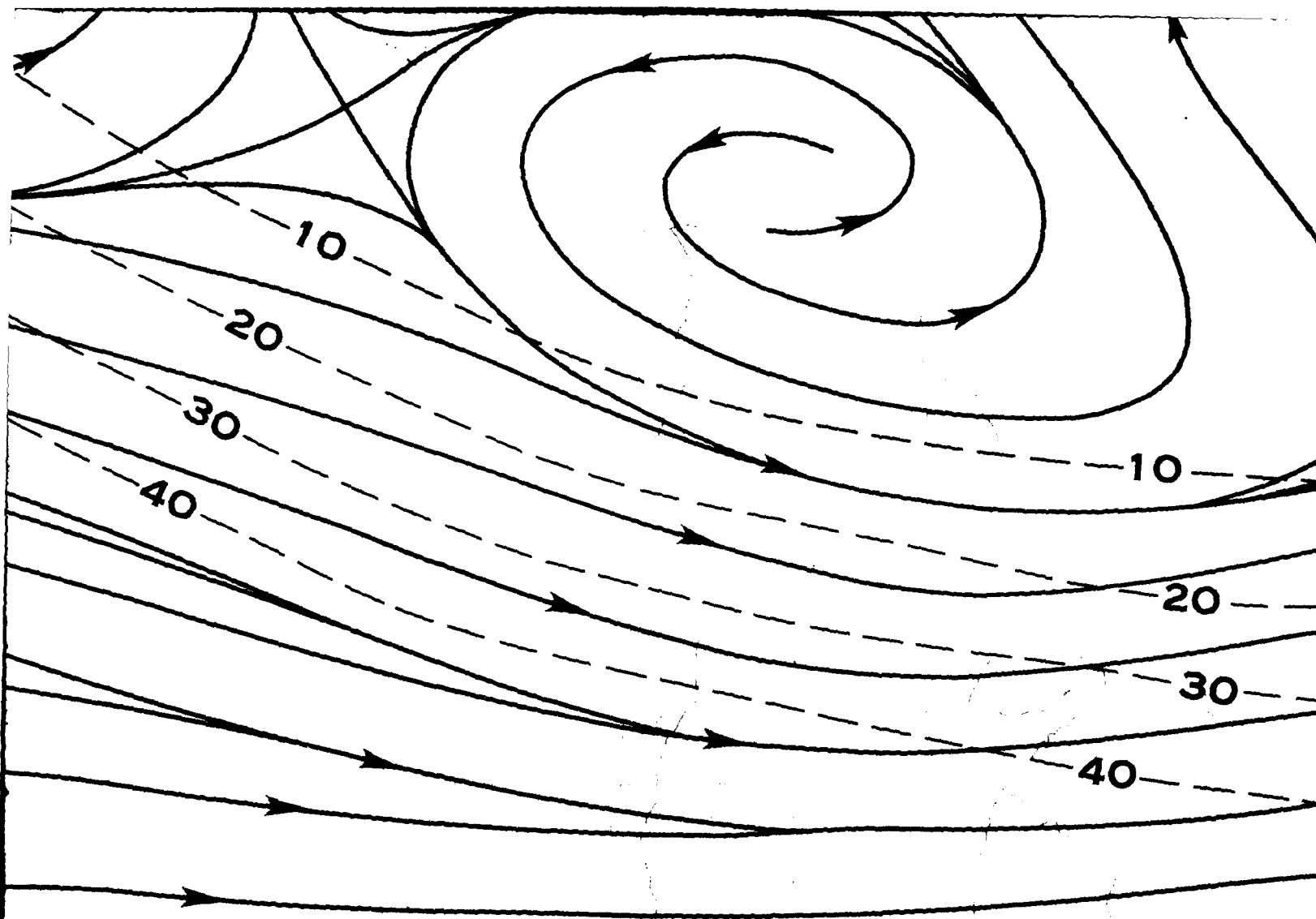




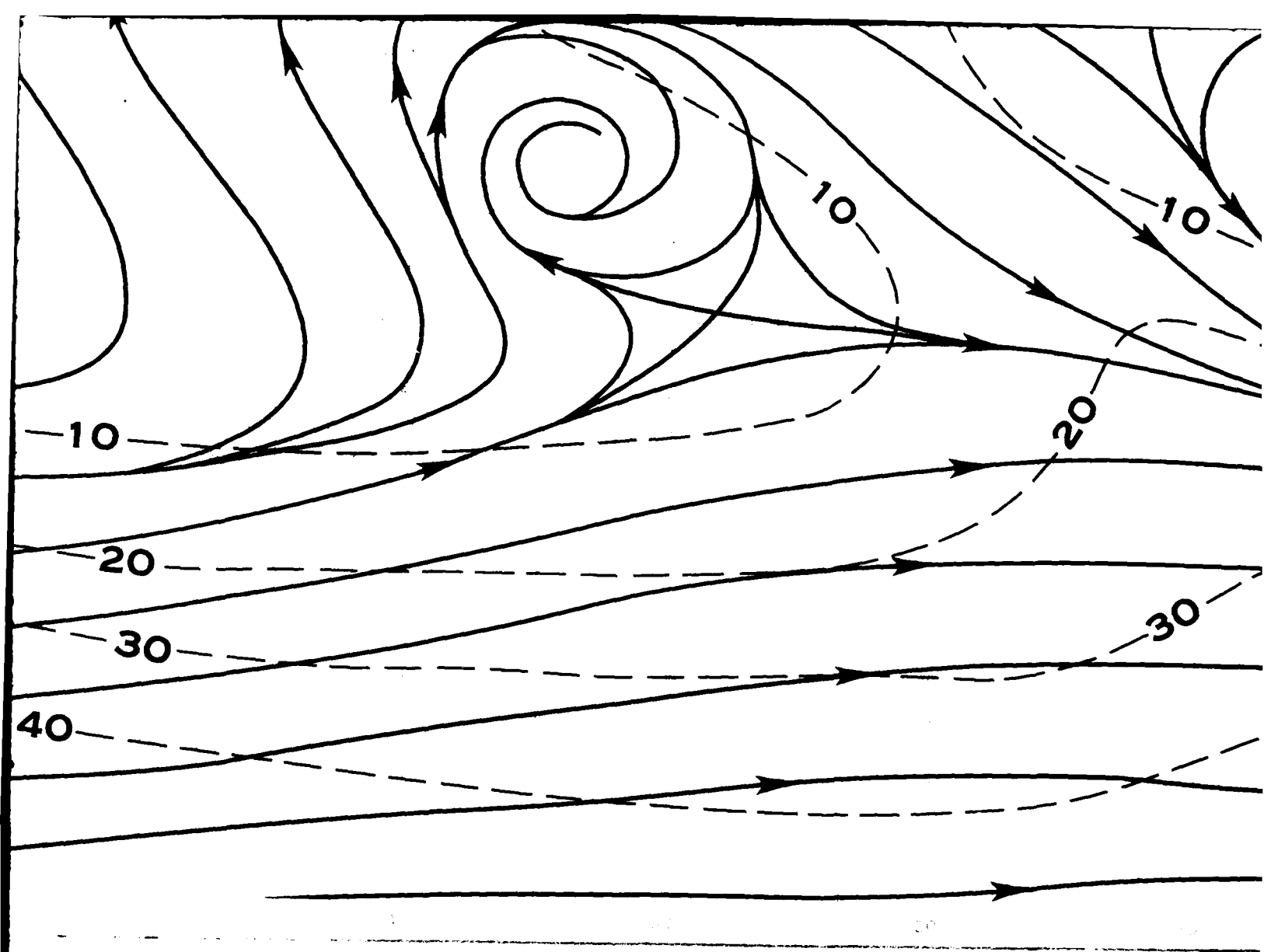
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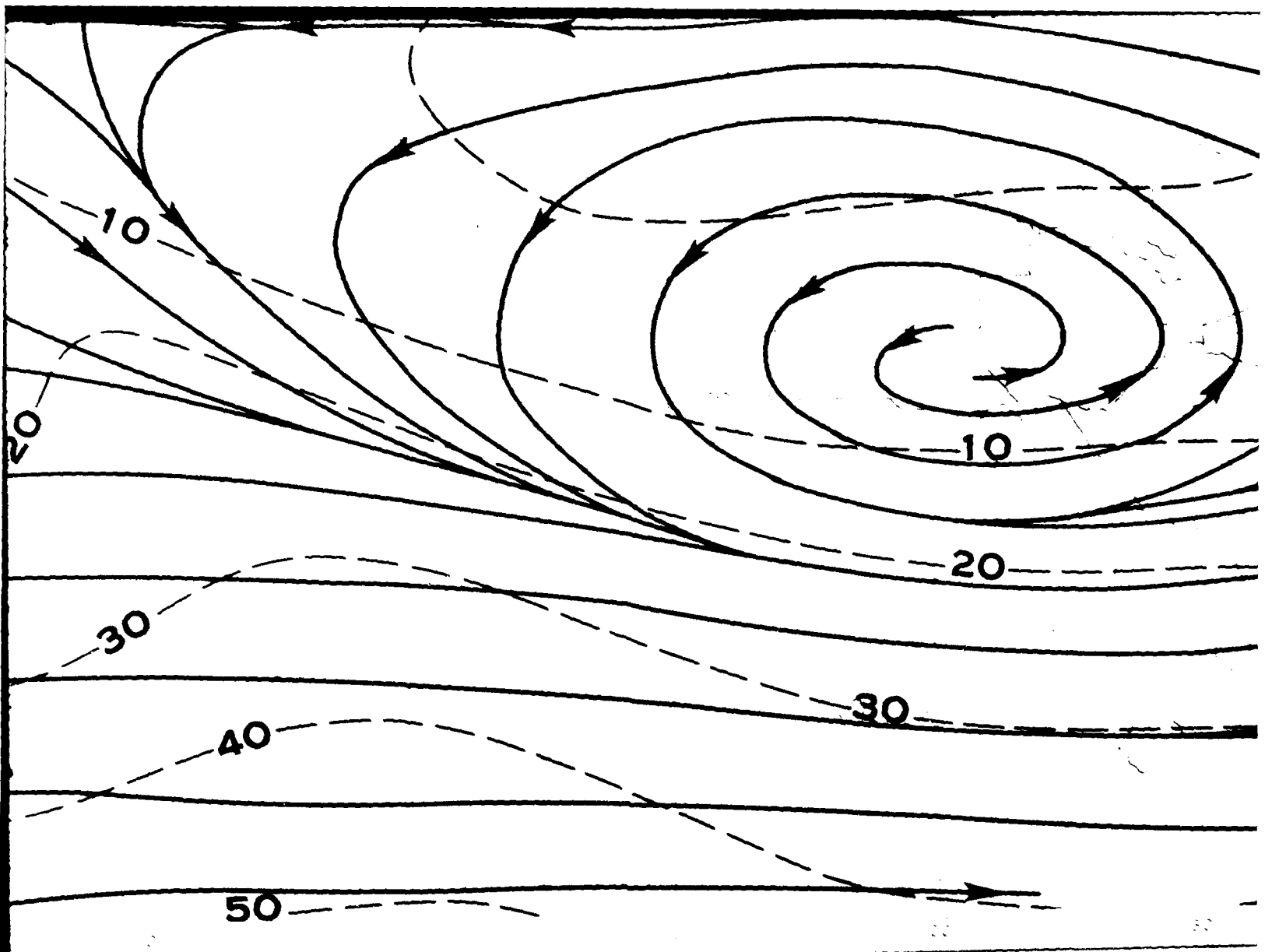




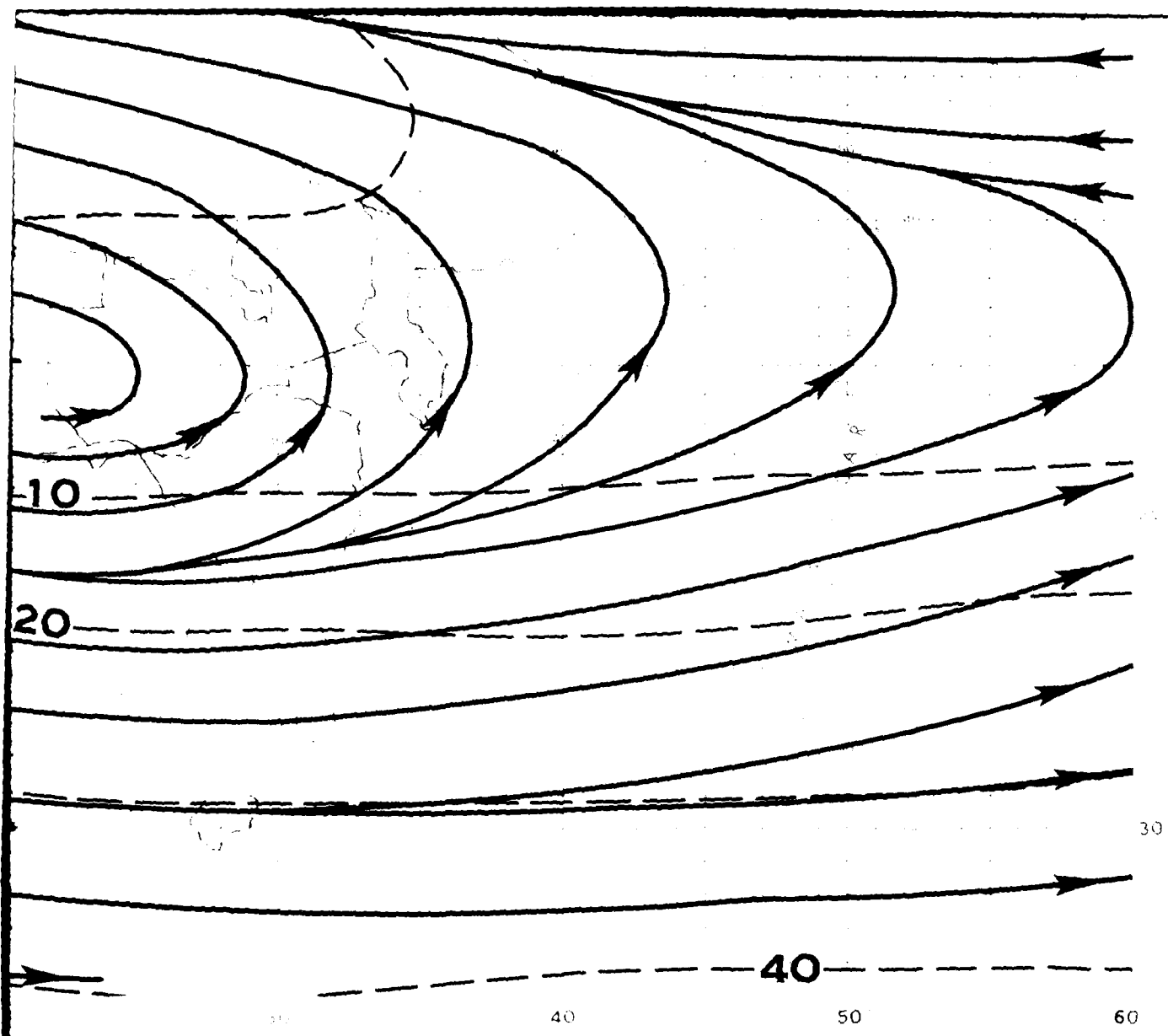
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(9)



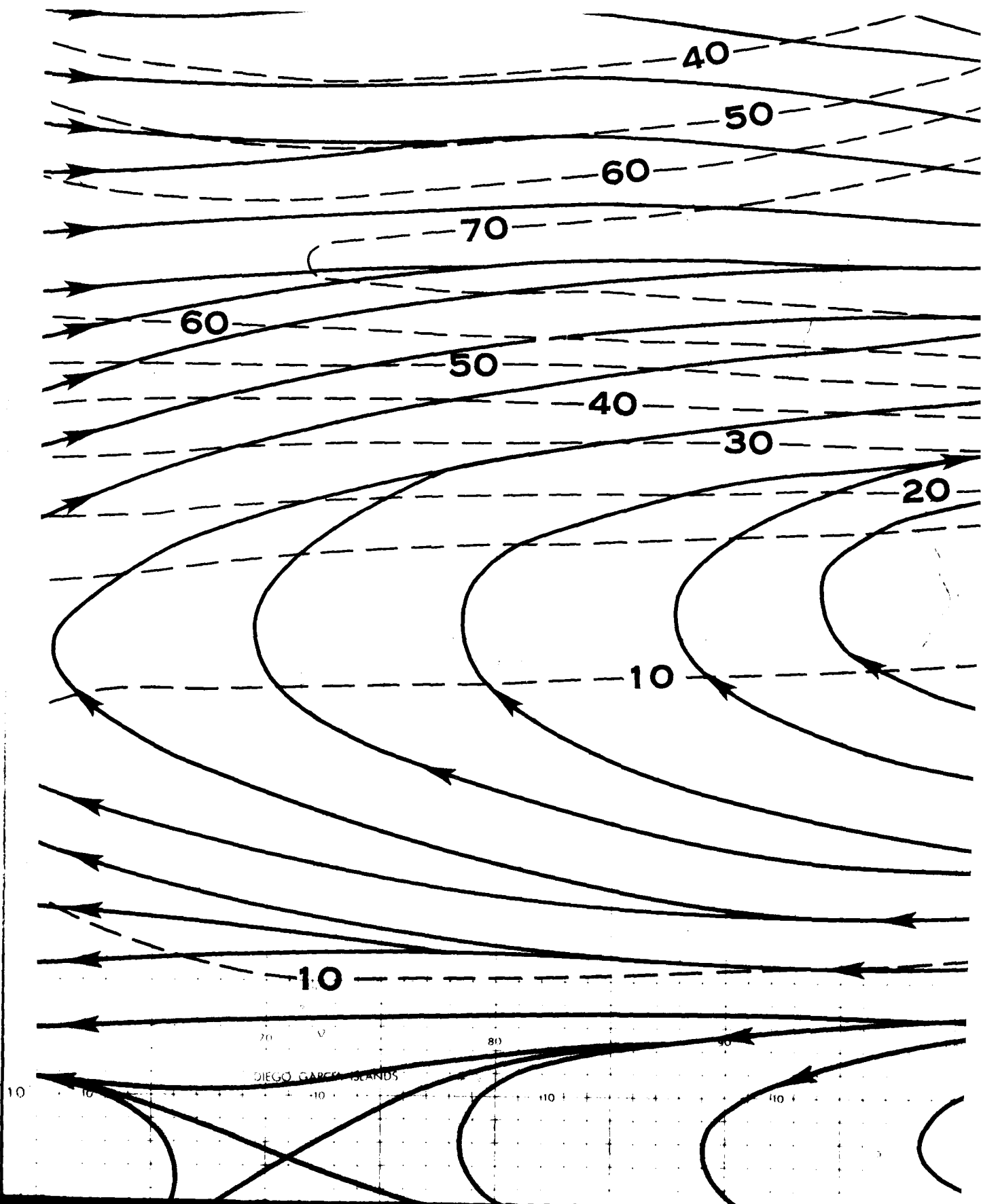
4



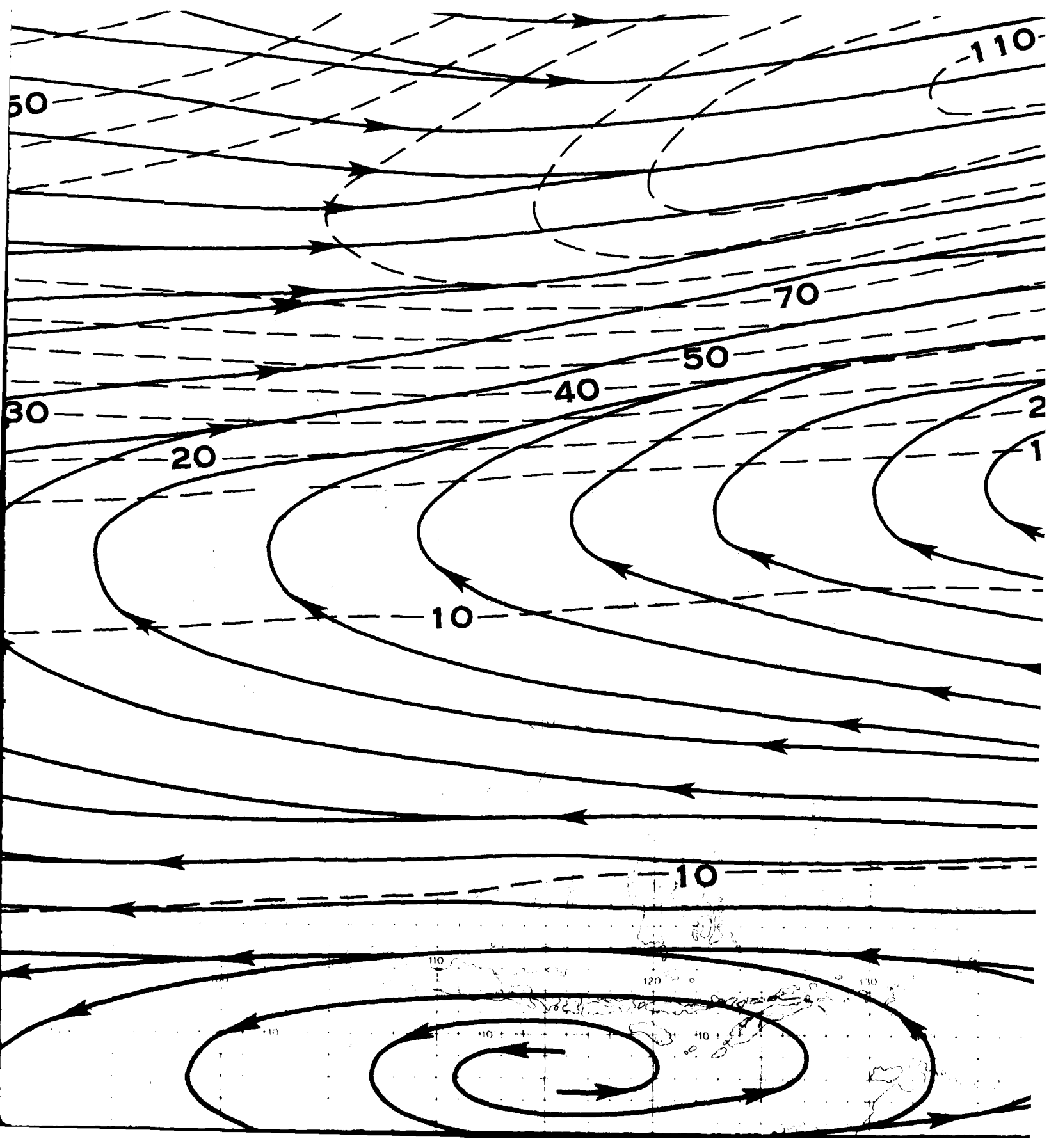
10

MULW-312W

M

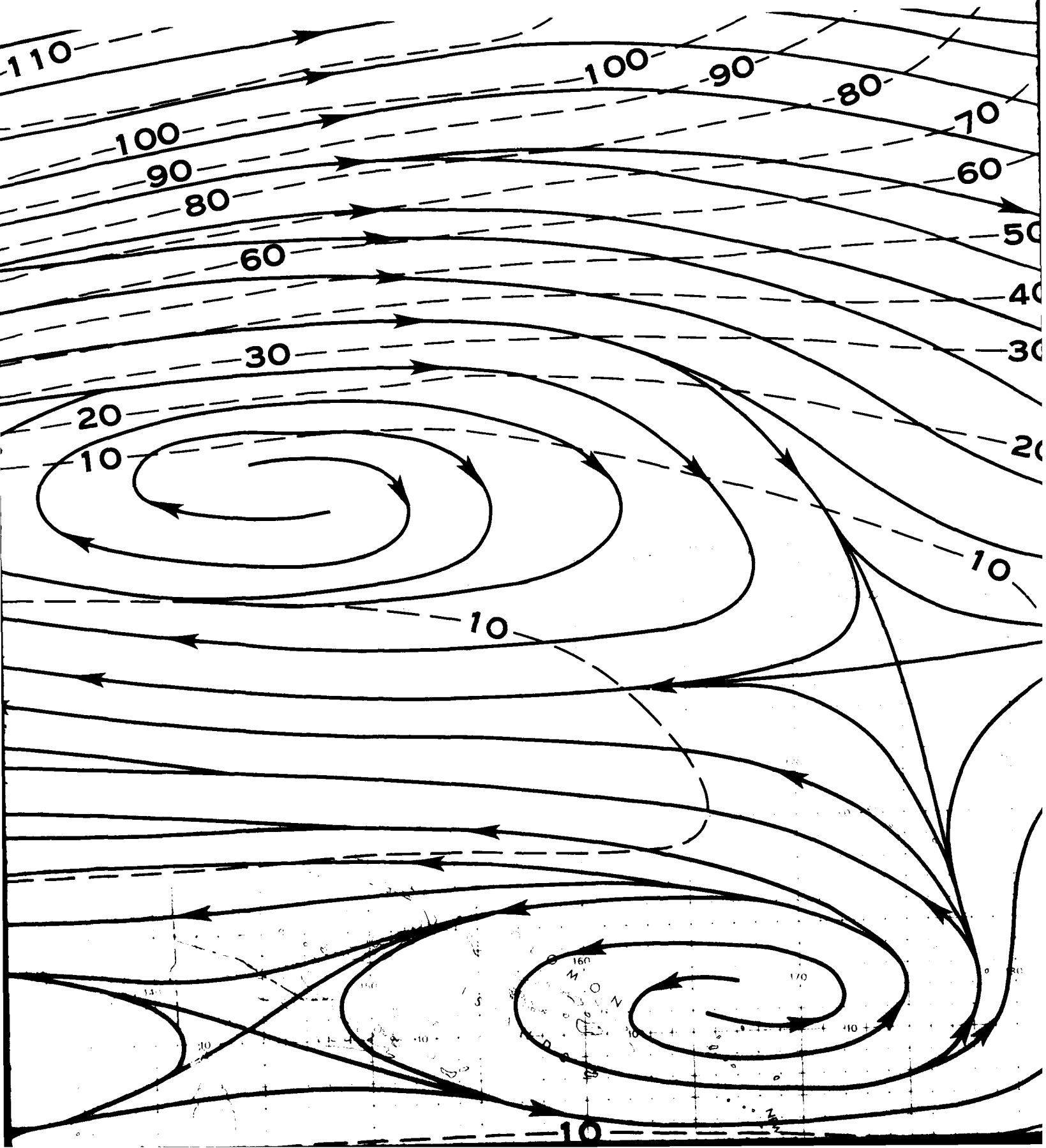


# MEAN UPPER LEVEL<sup>12</sup> WIND

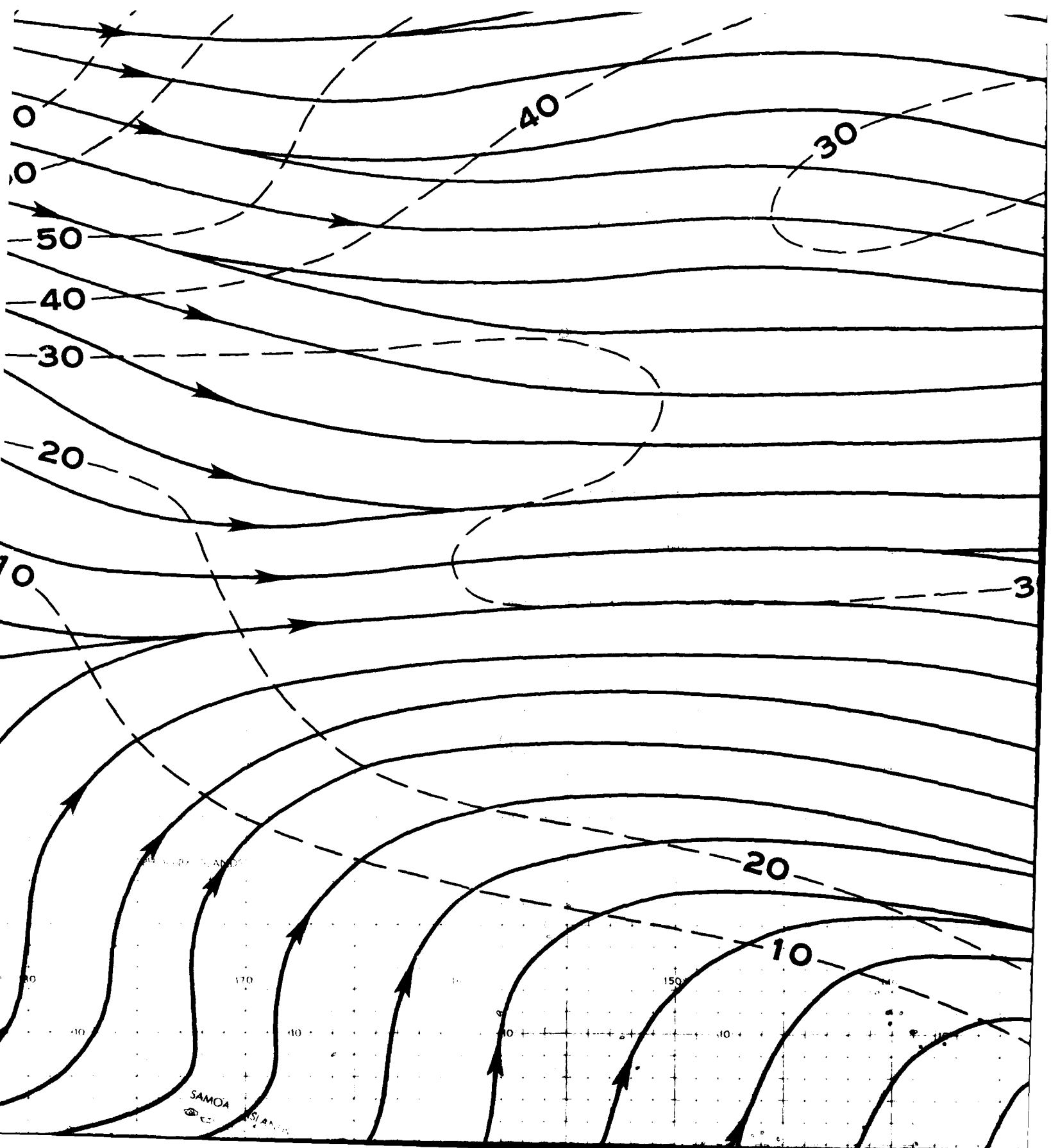




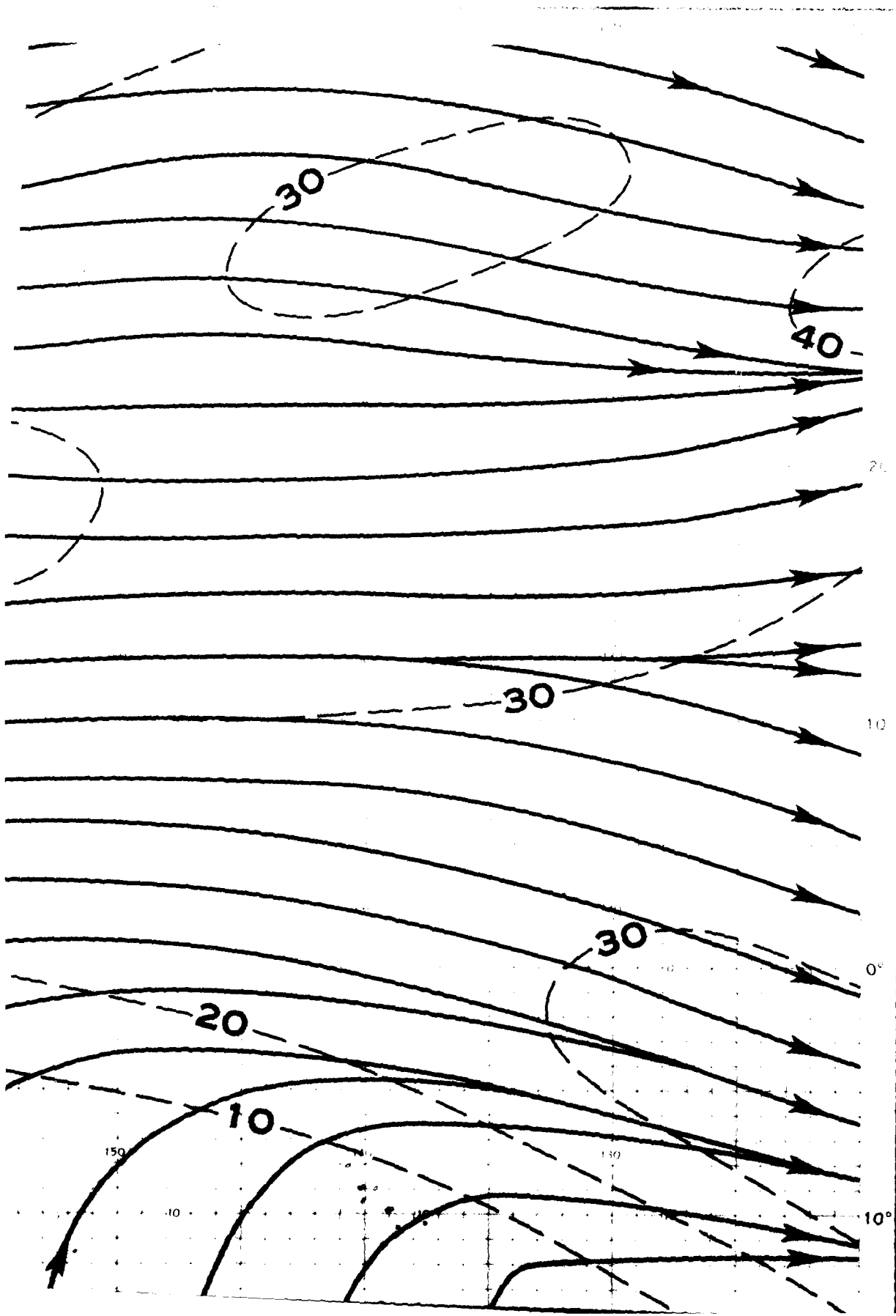
# WINDS over GLOBAL TROPICS - DECEMBER

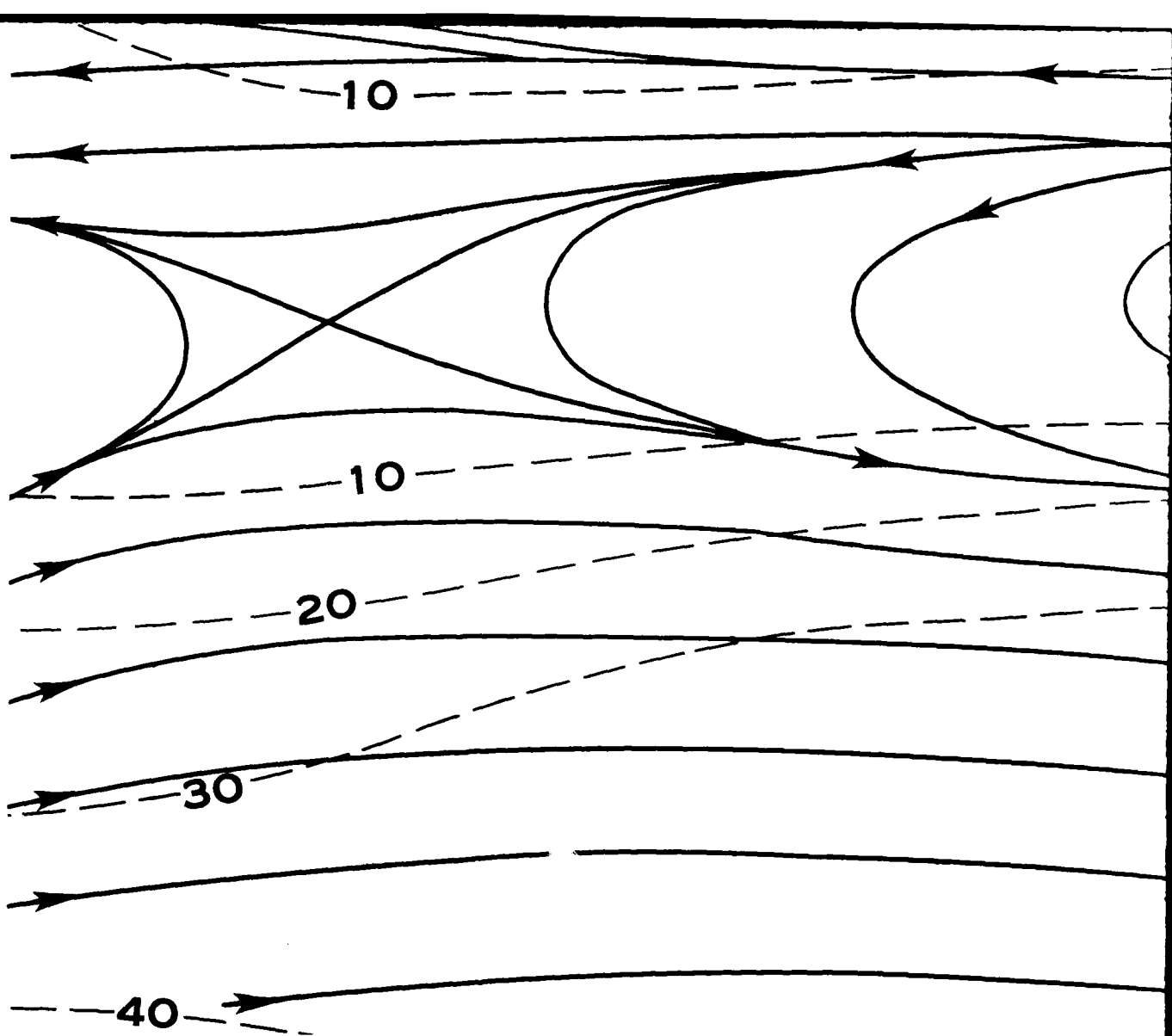


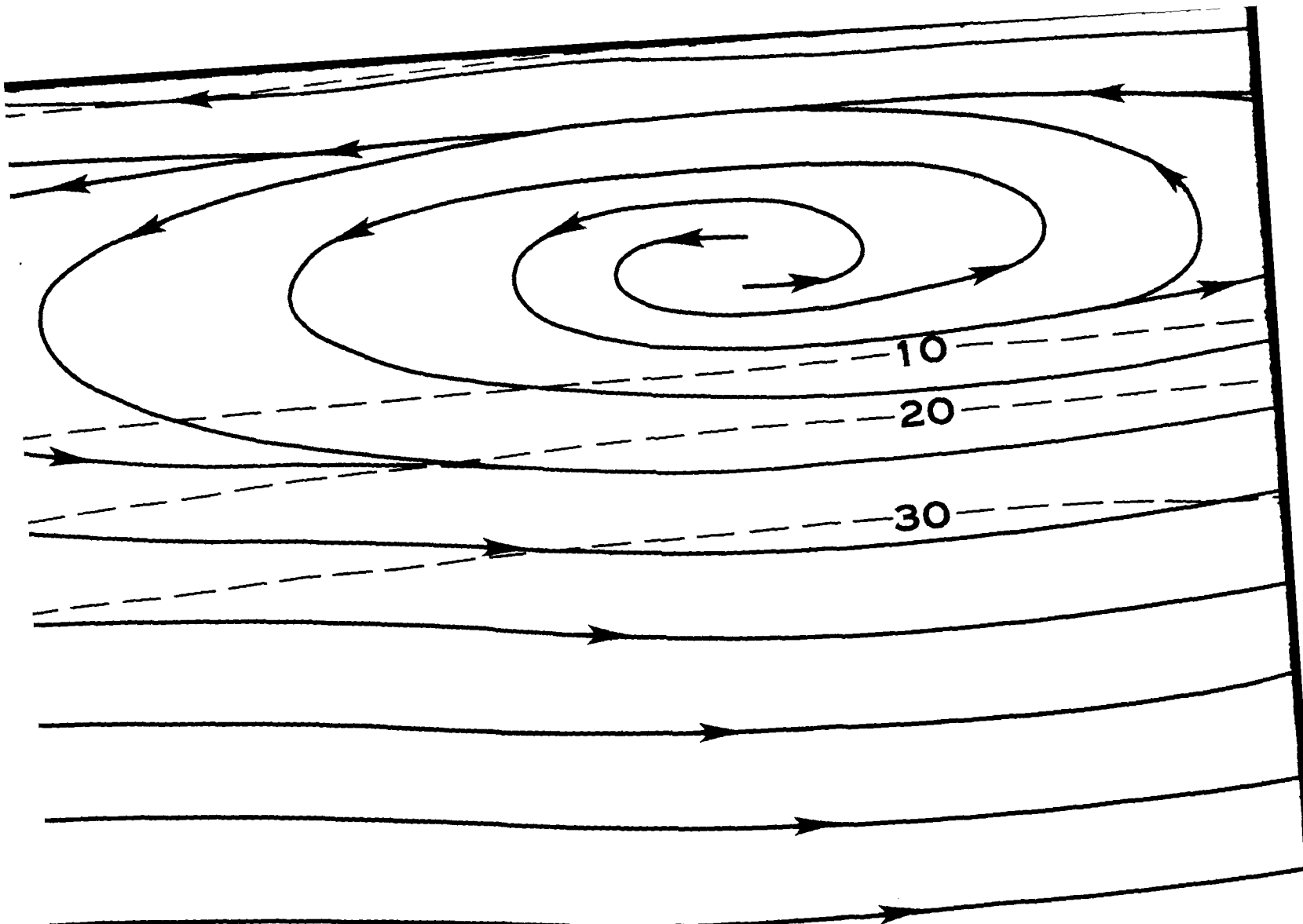
# CEMBER 300 mb



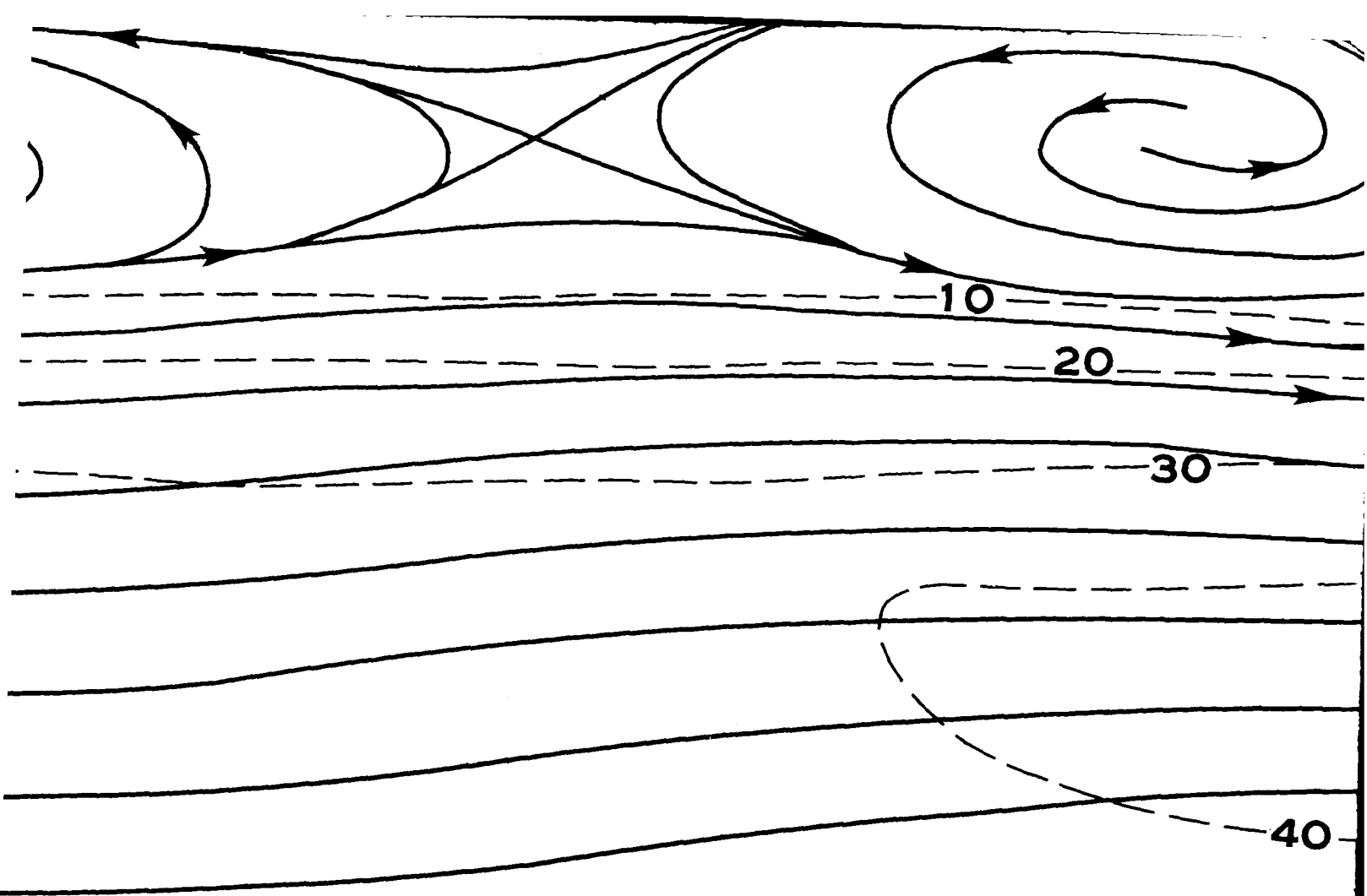
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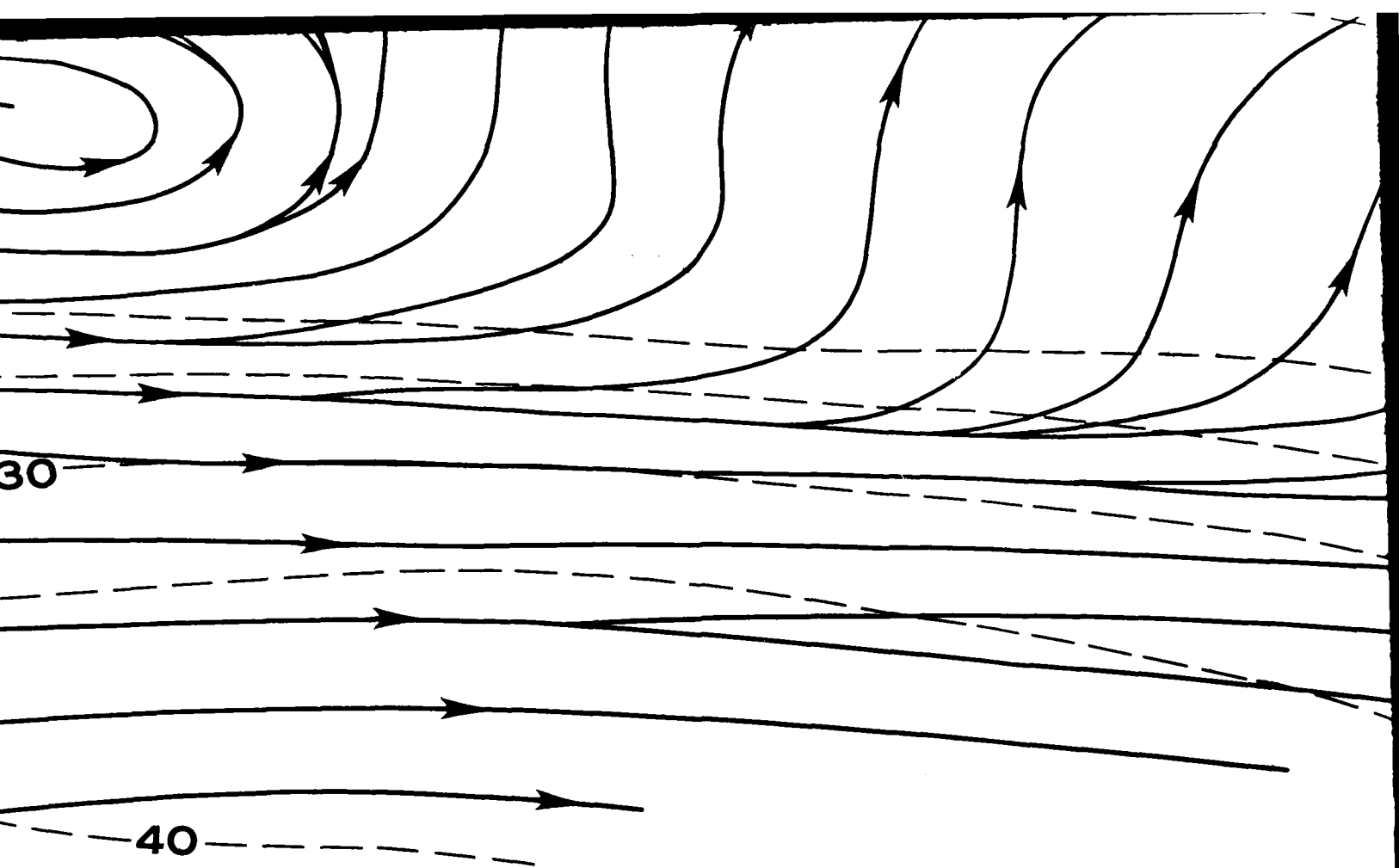


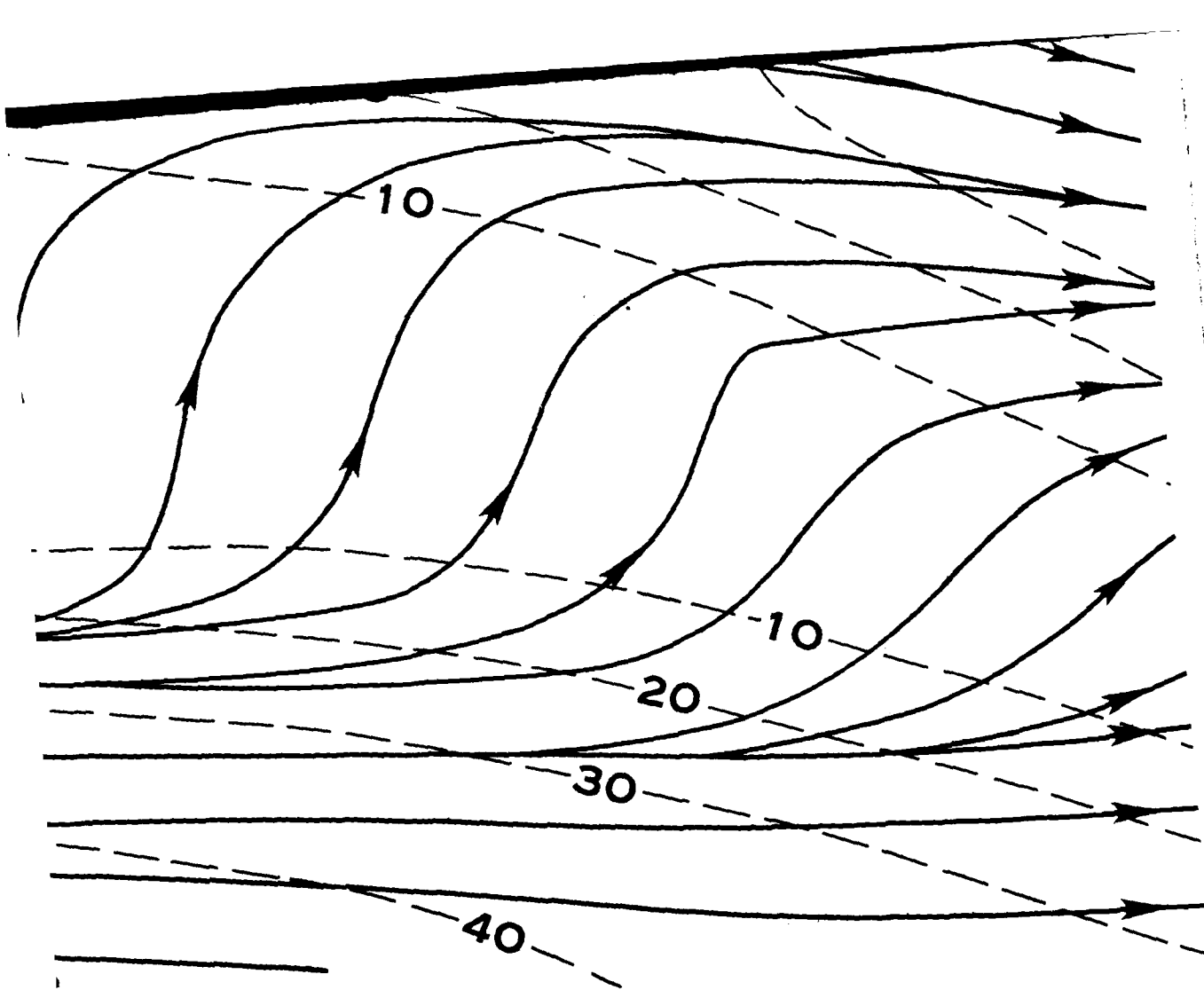




17





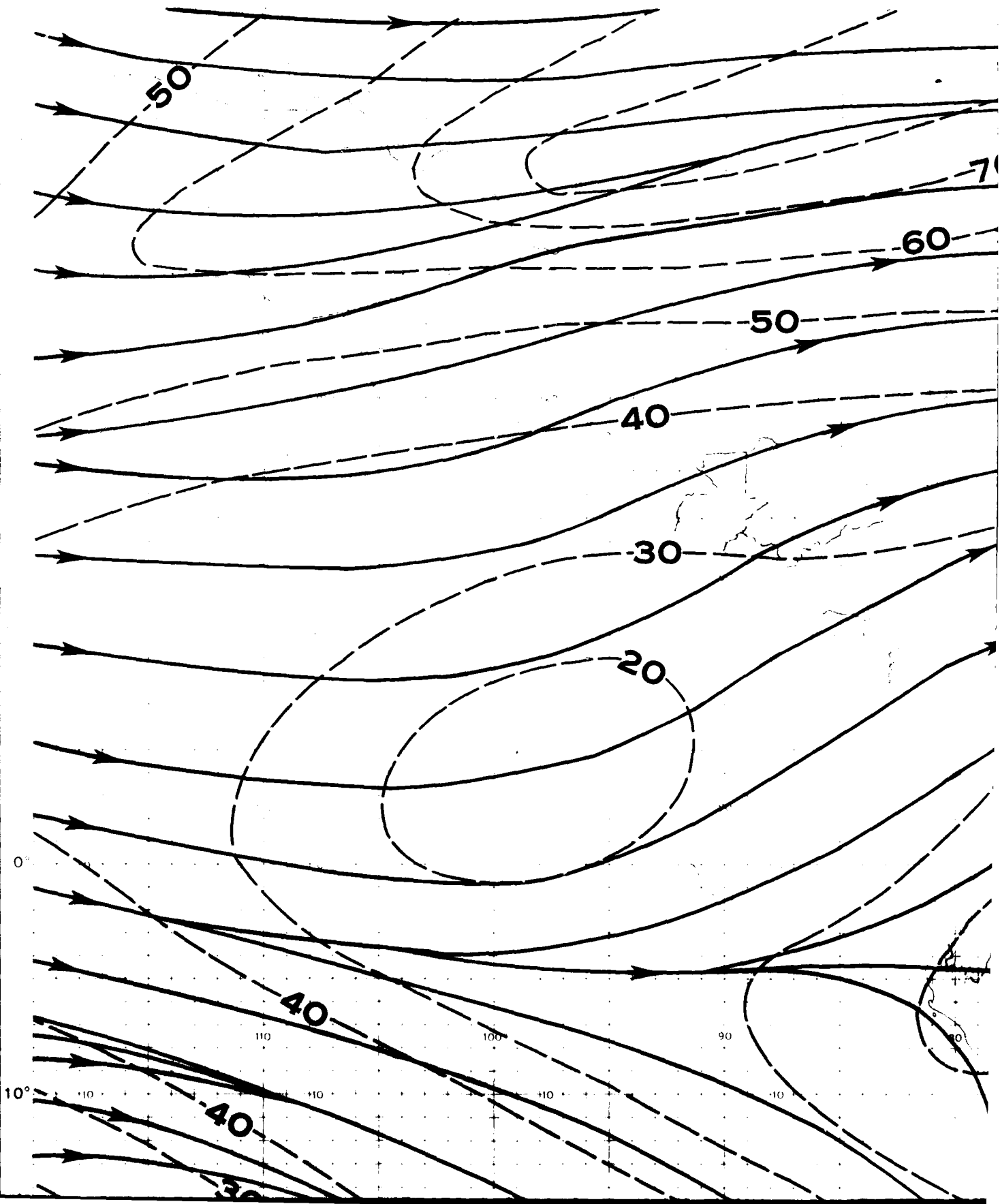


MULW-312E

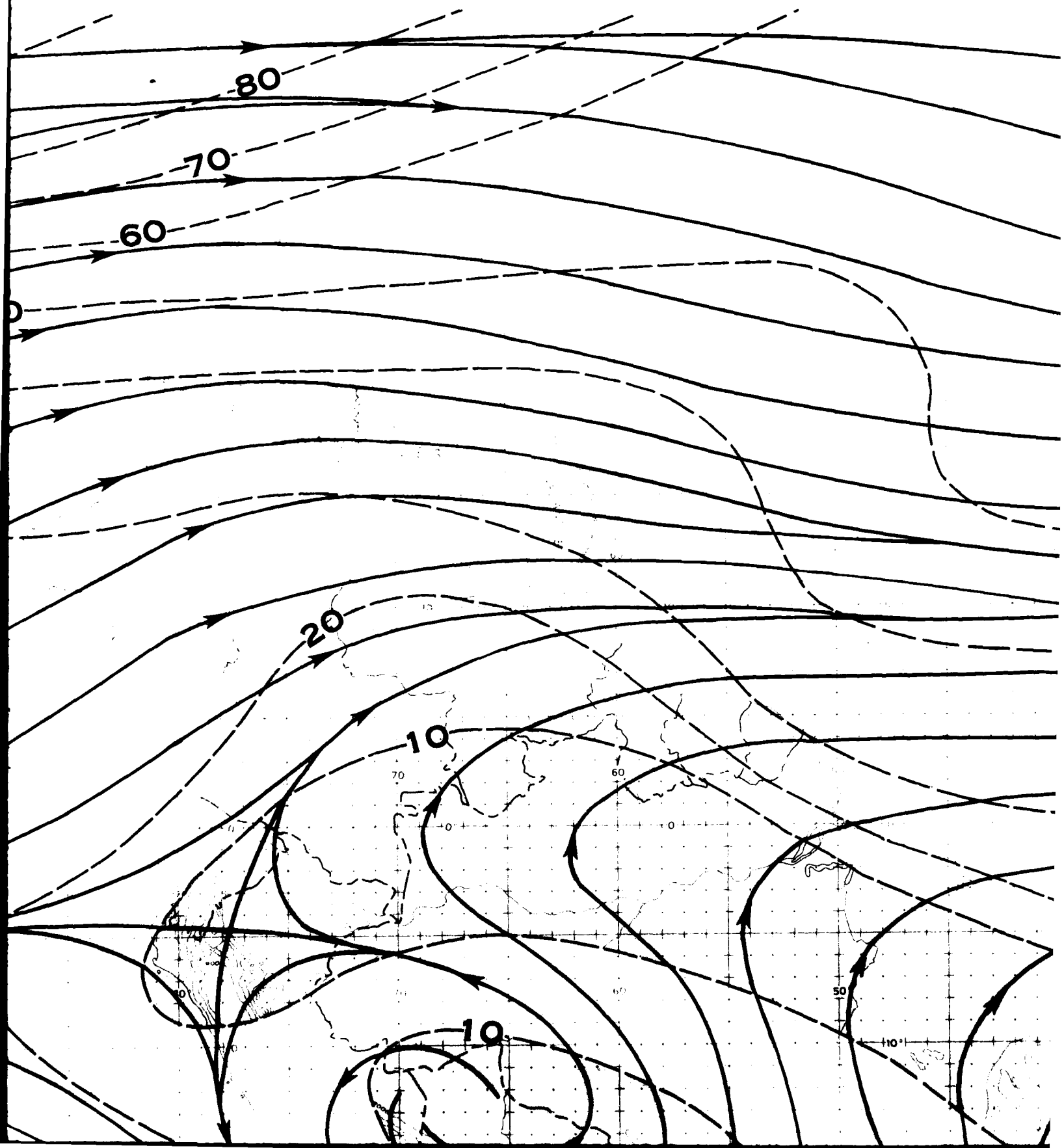




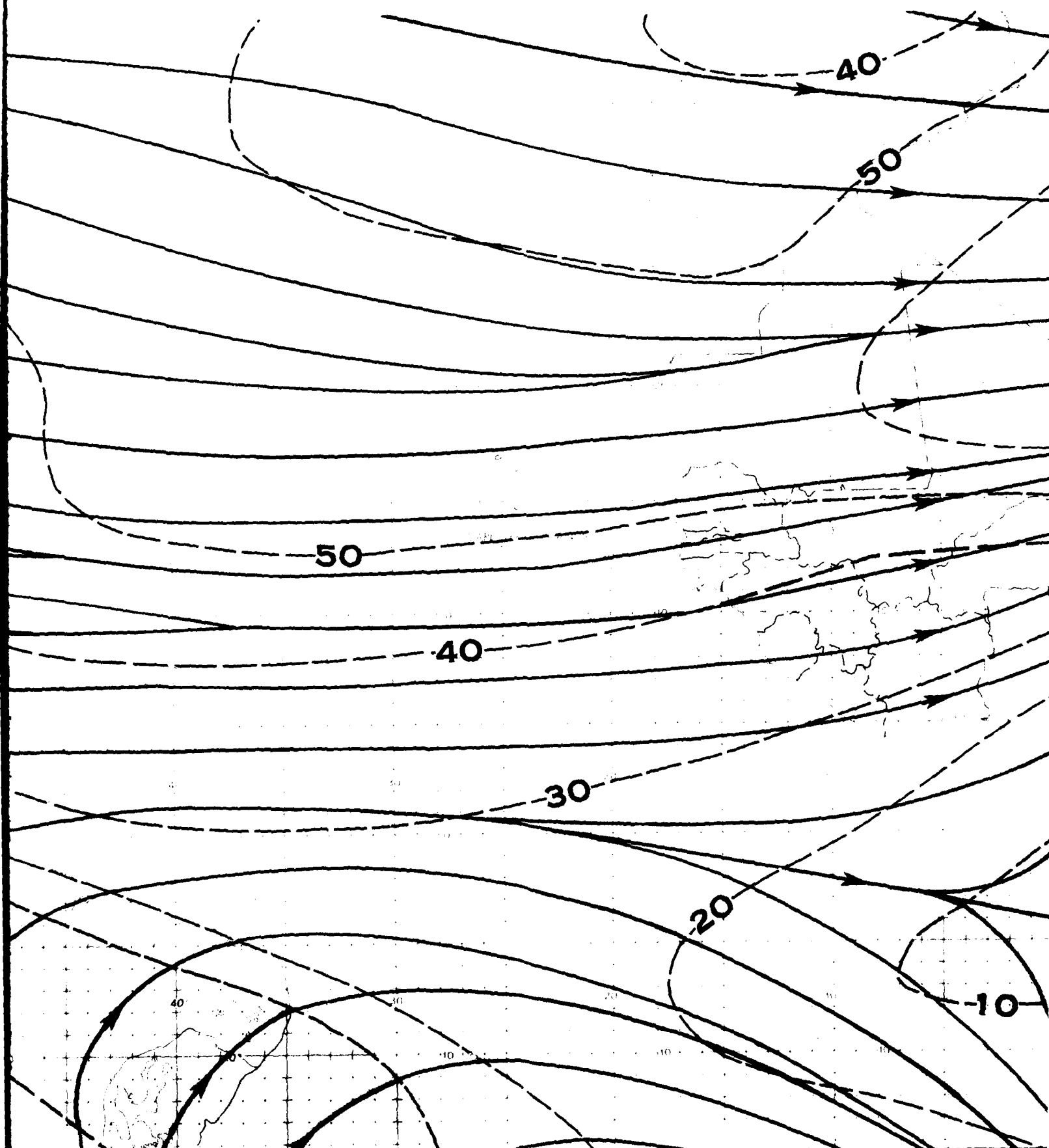
ME



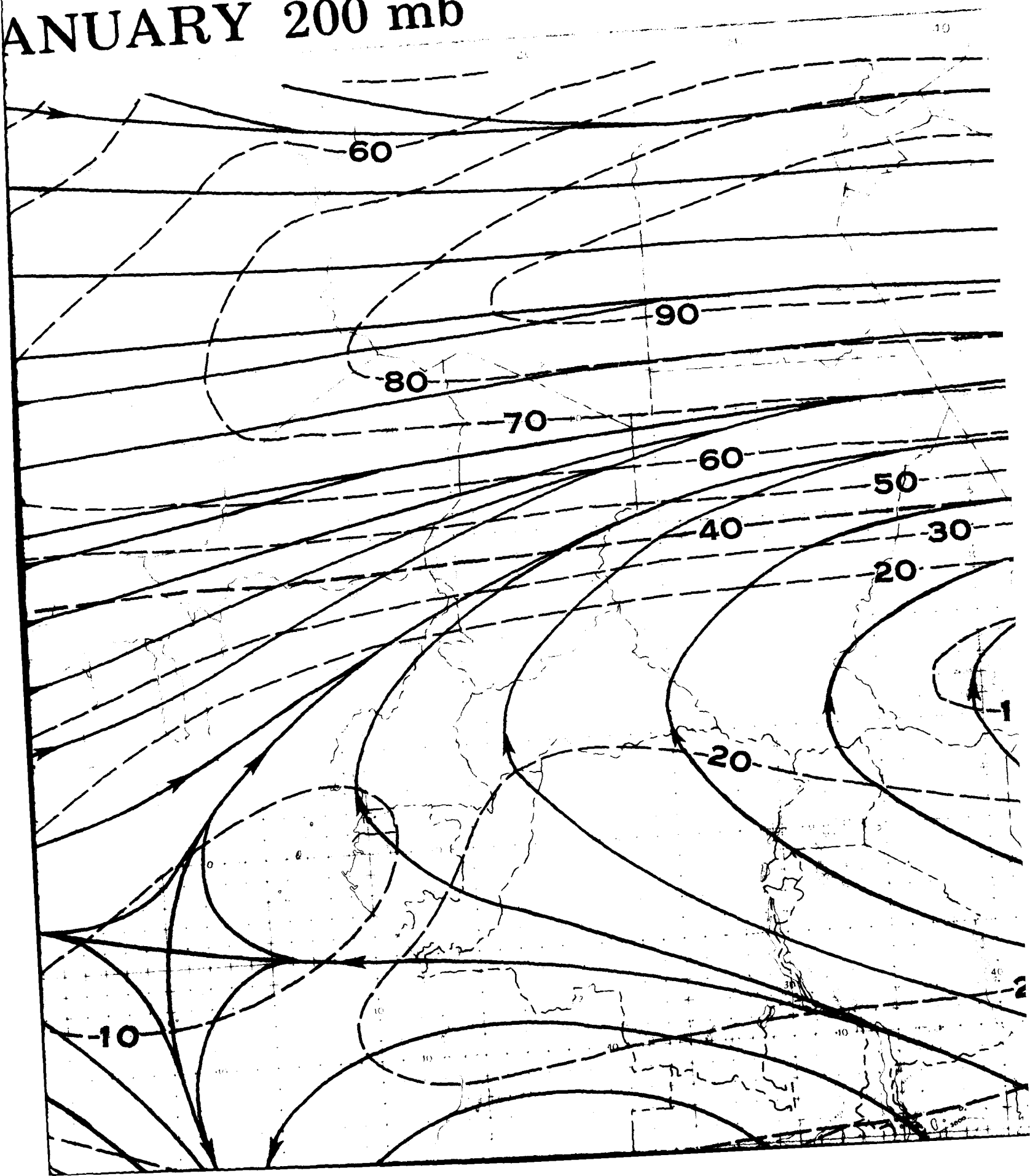
# MEAN UPPER LEVEL WINDS of



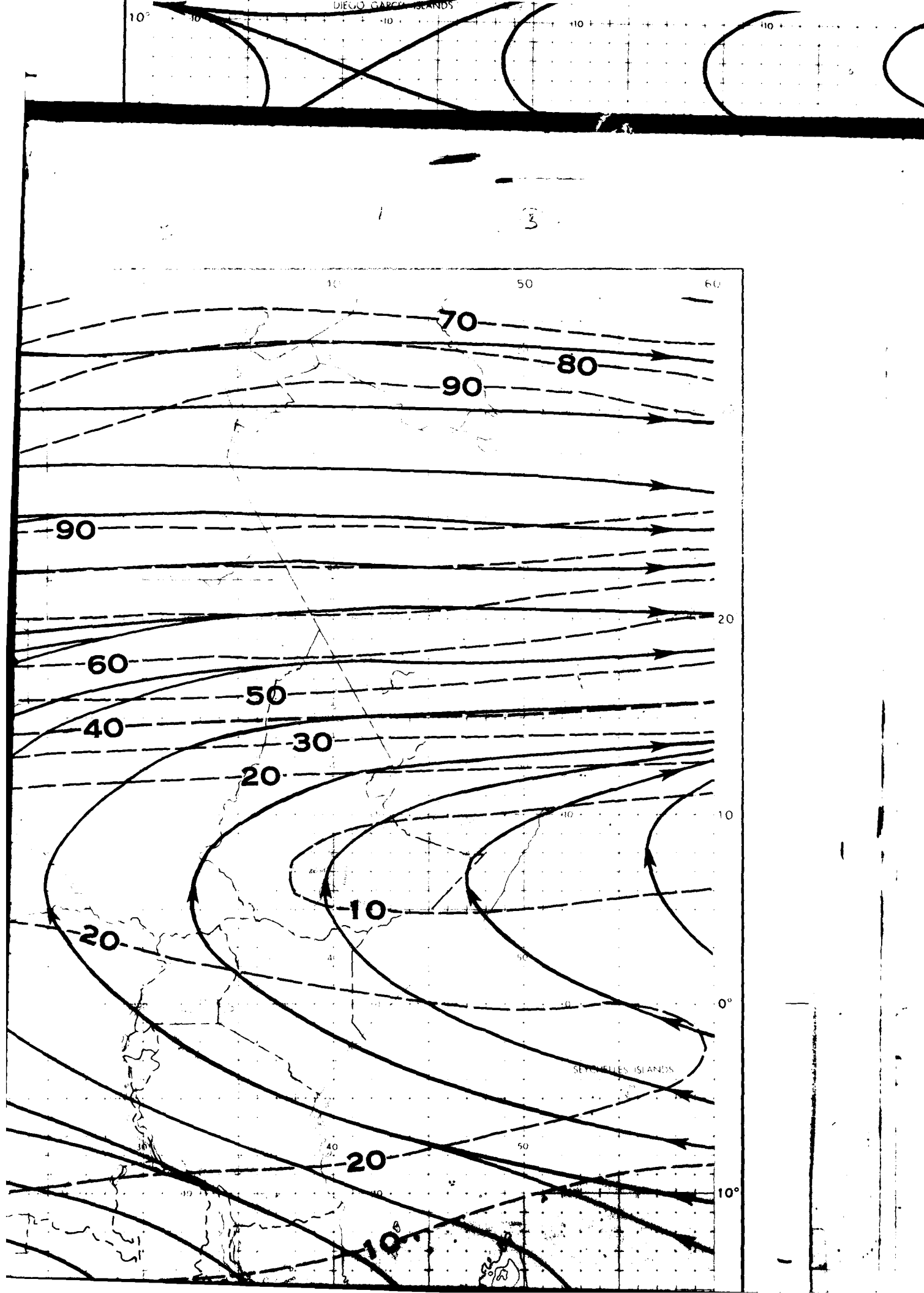
# WINDS over GLOBAL TROPICS - JANU

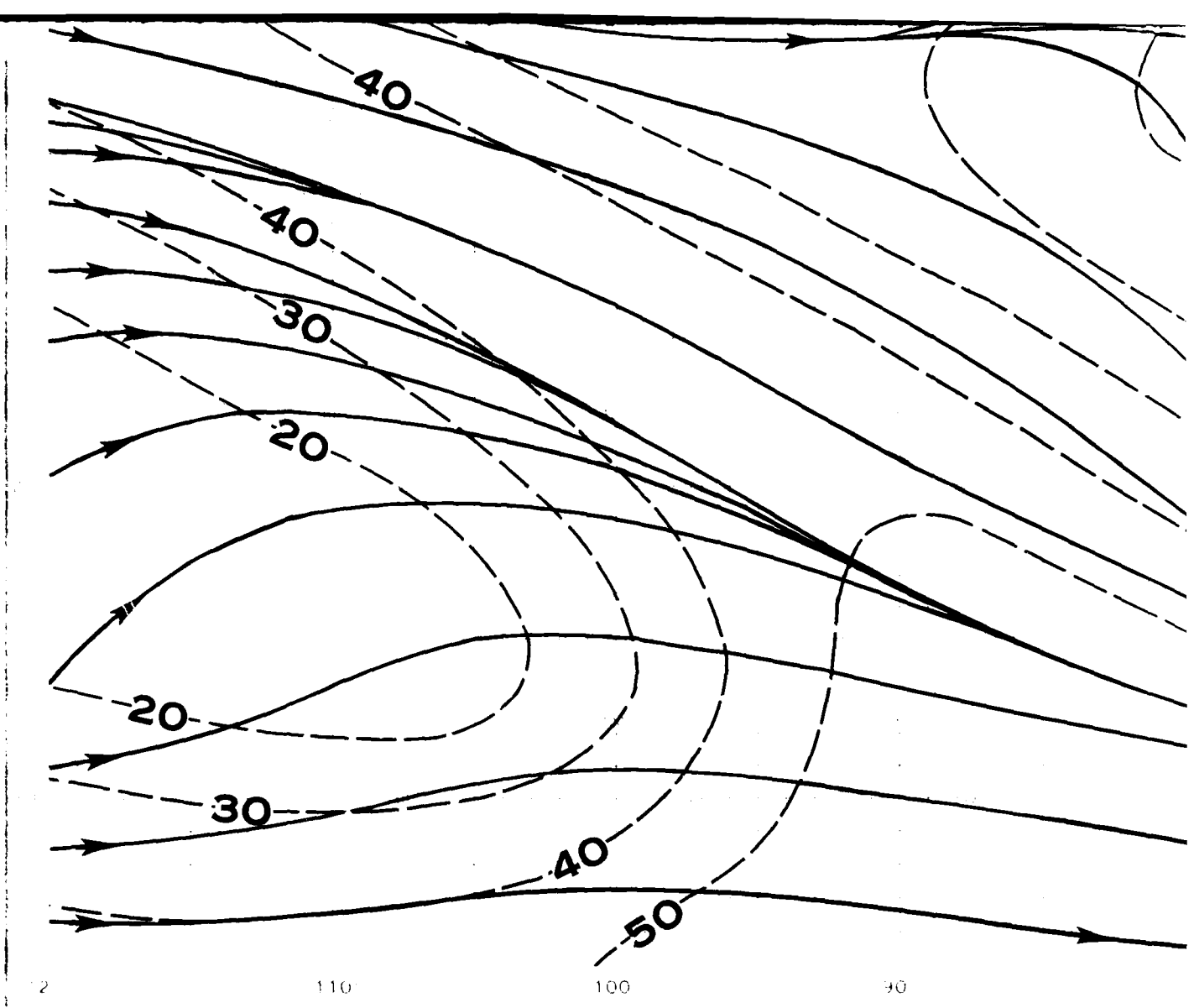


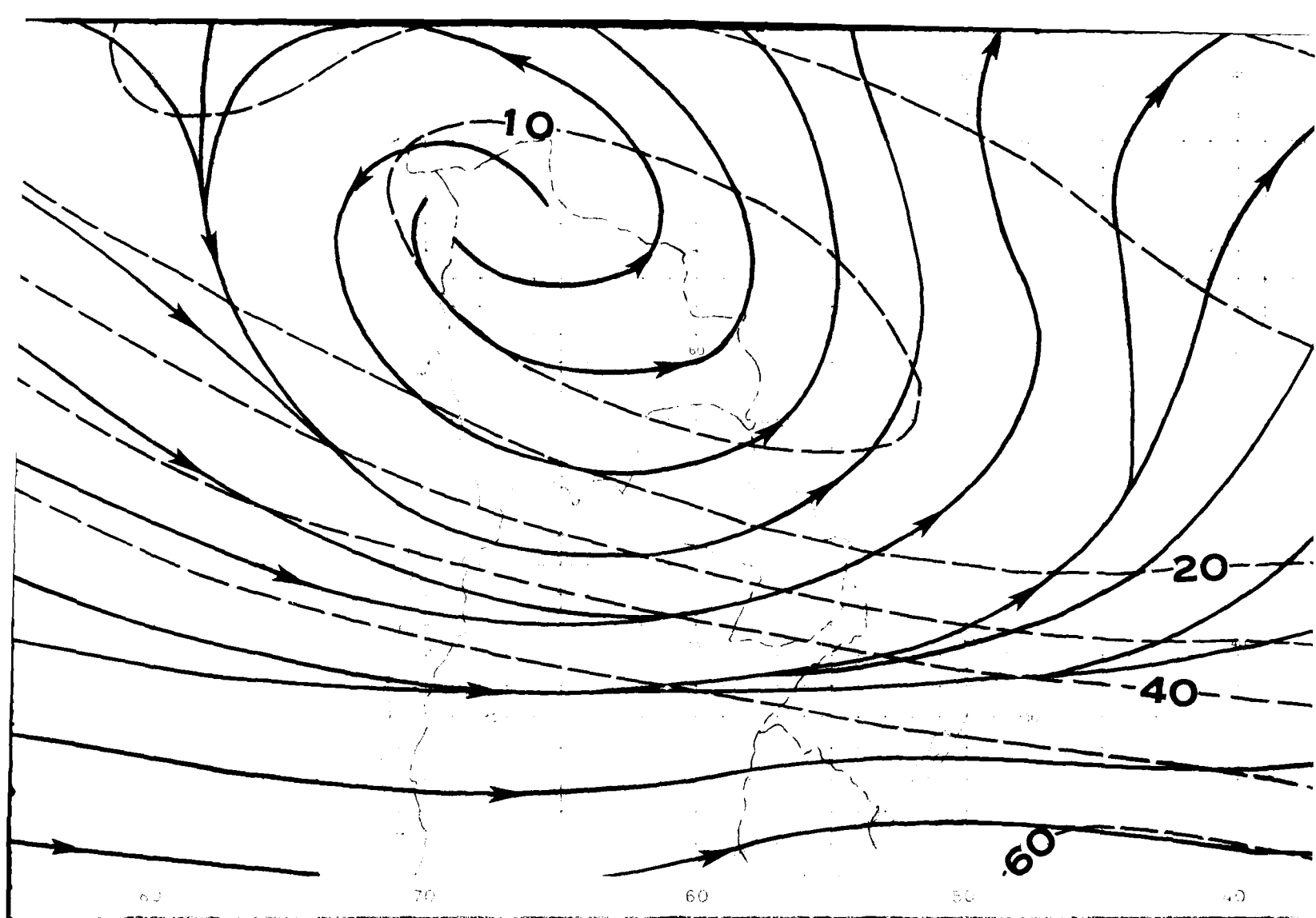
# JANUARY 200 mb



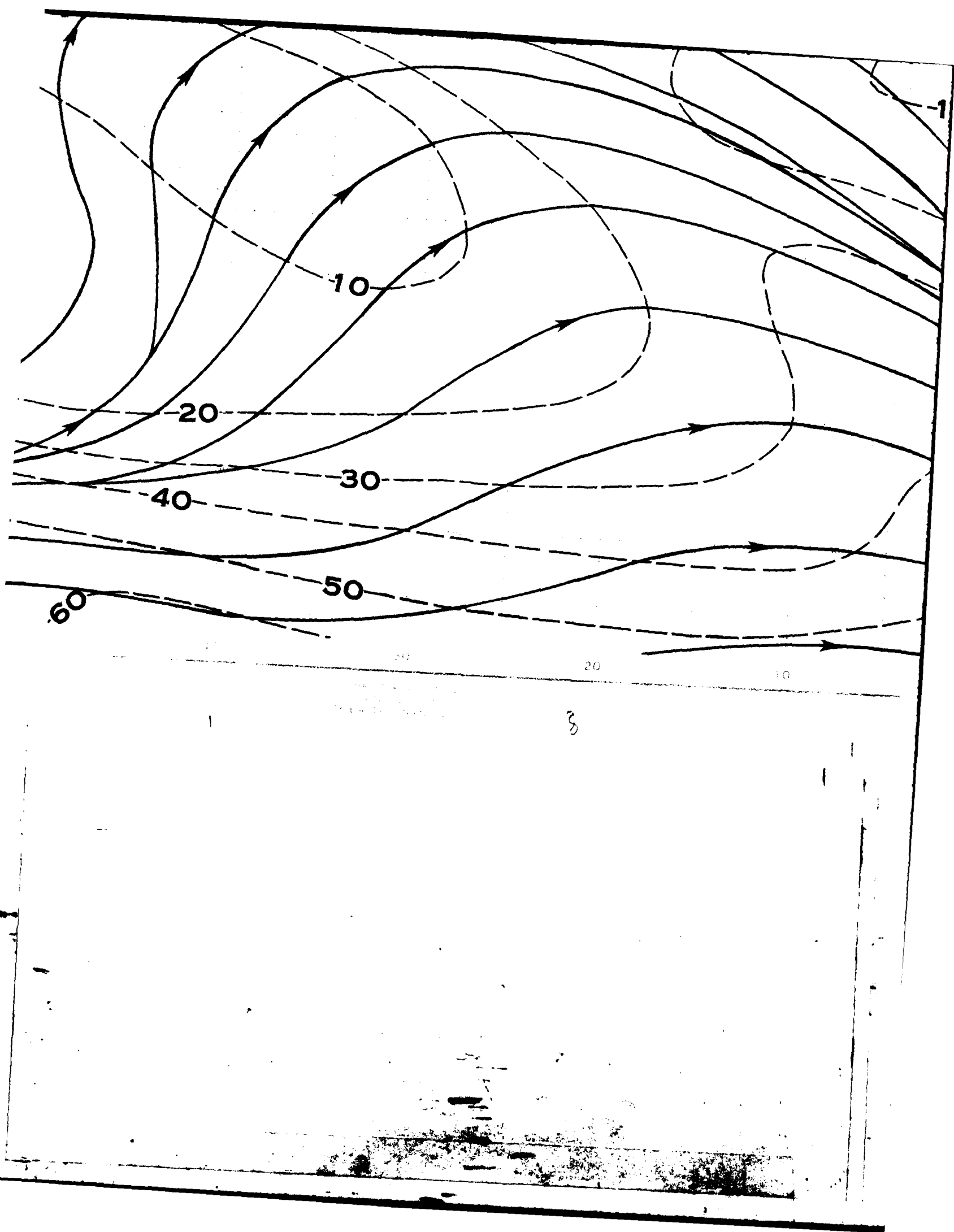
DIEGO GARCIA ISLANDS



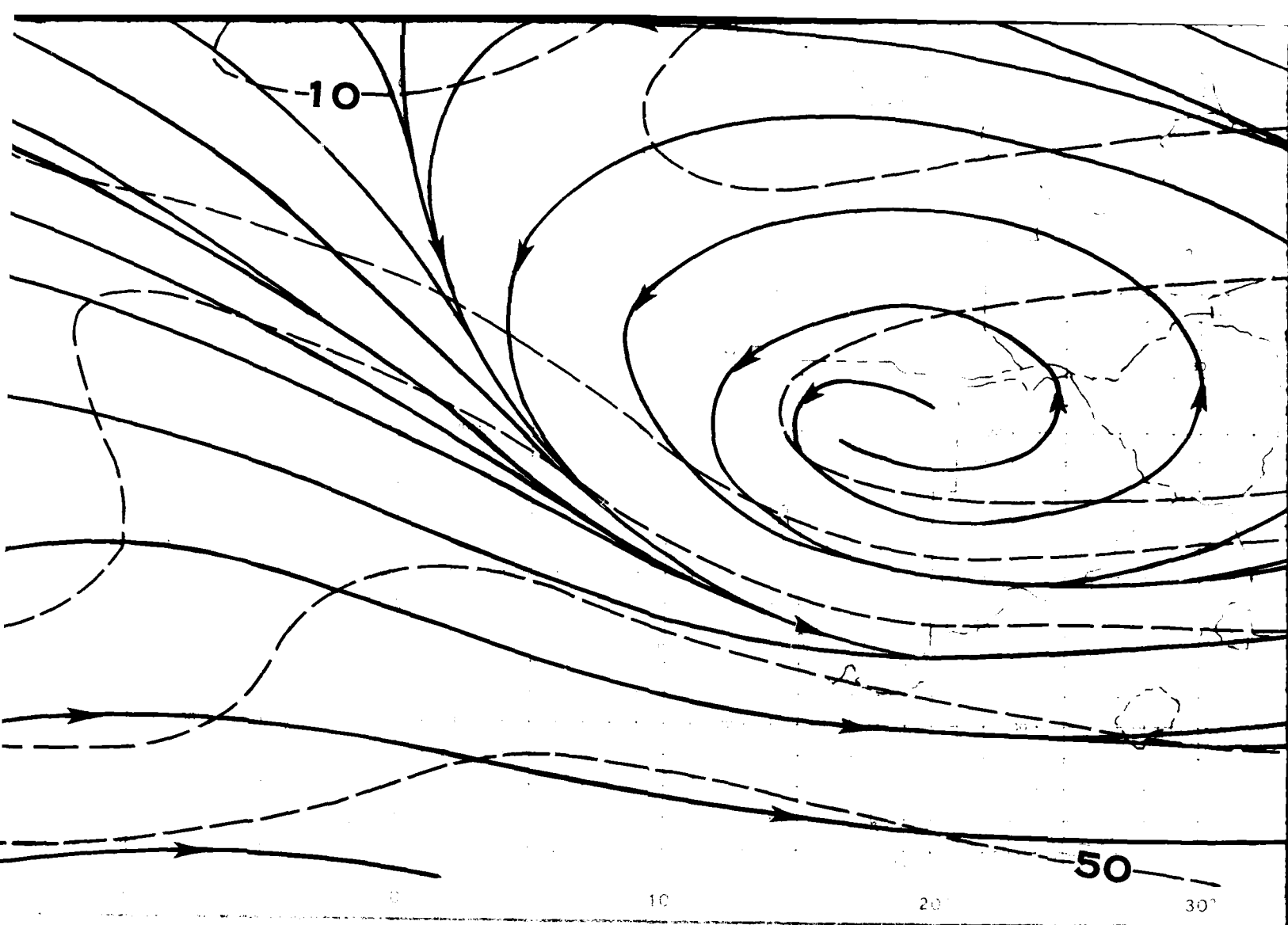




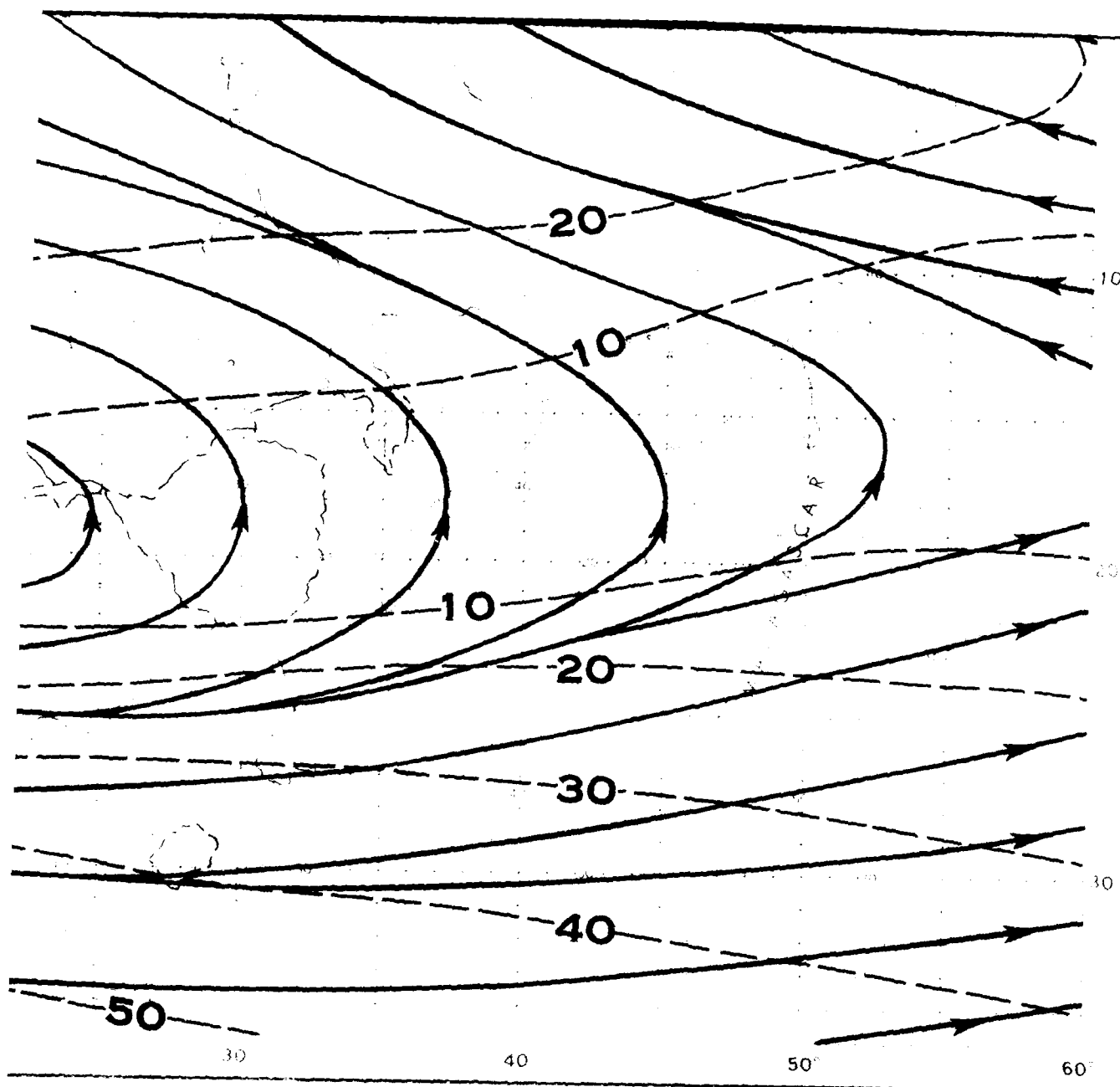
G







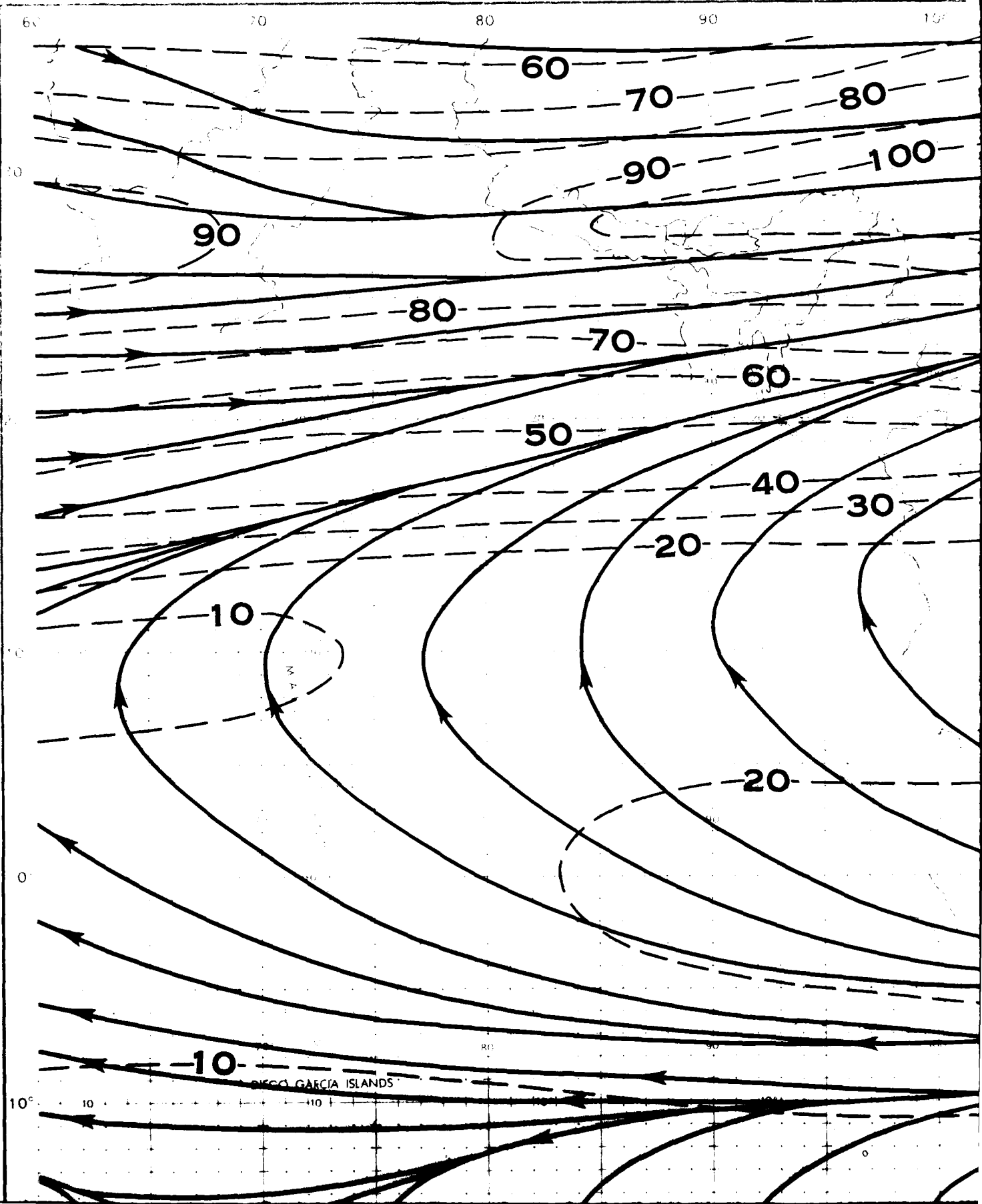
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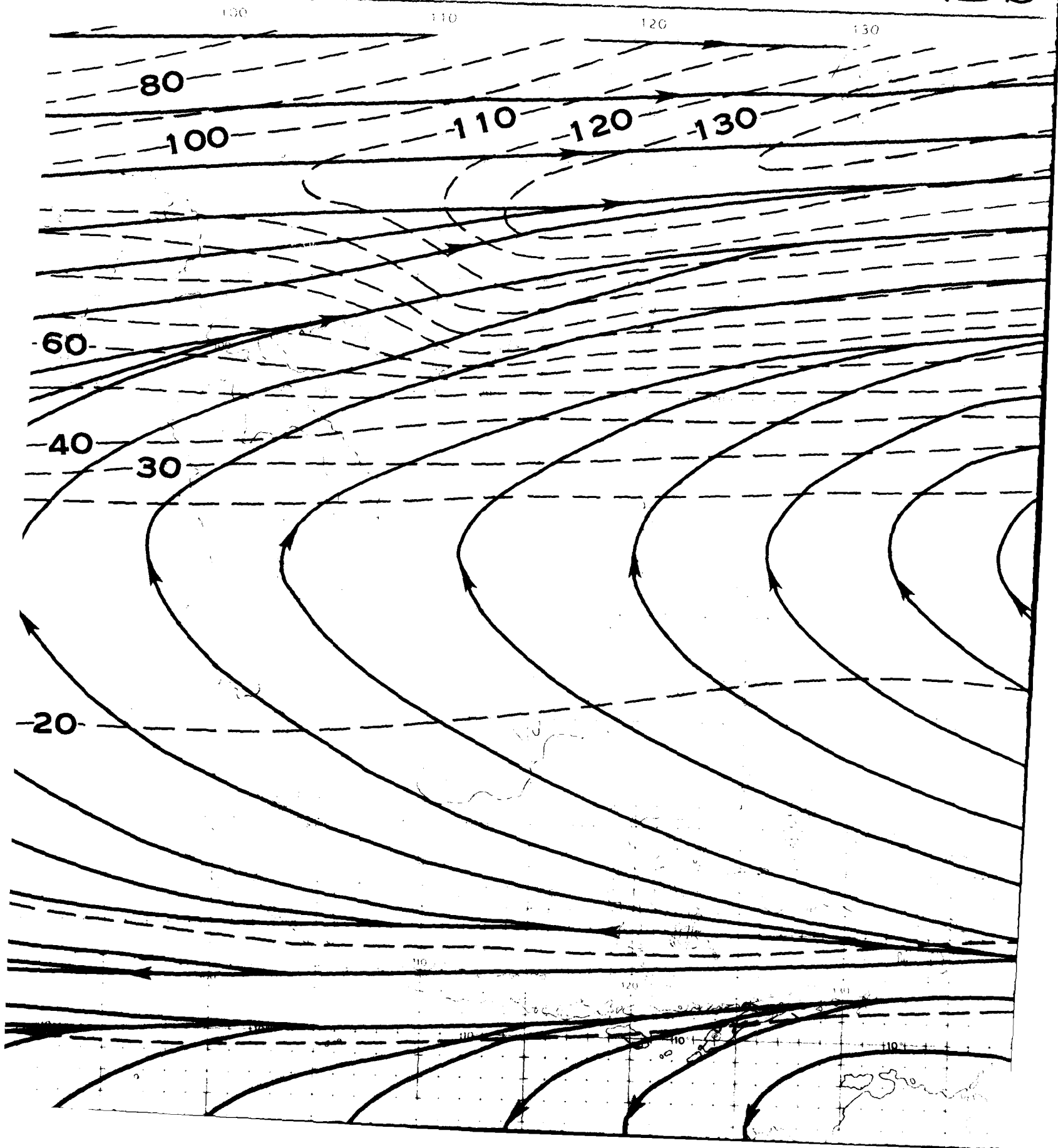
12

MULW-201W

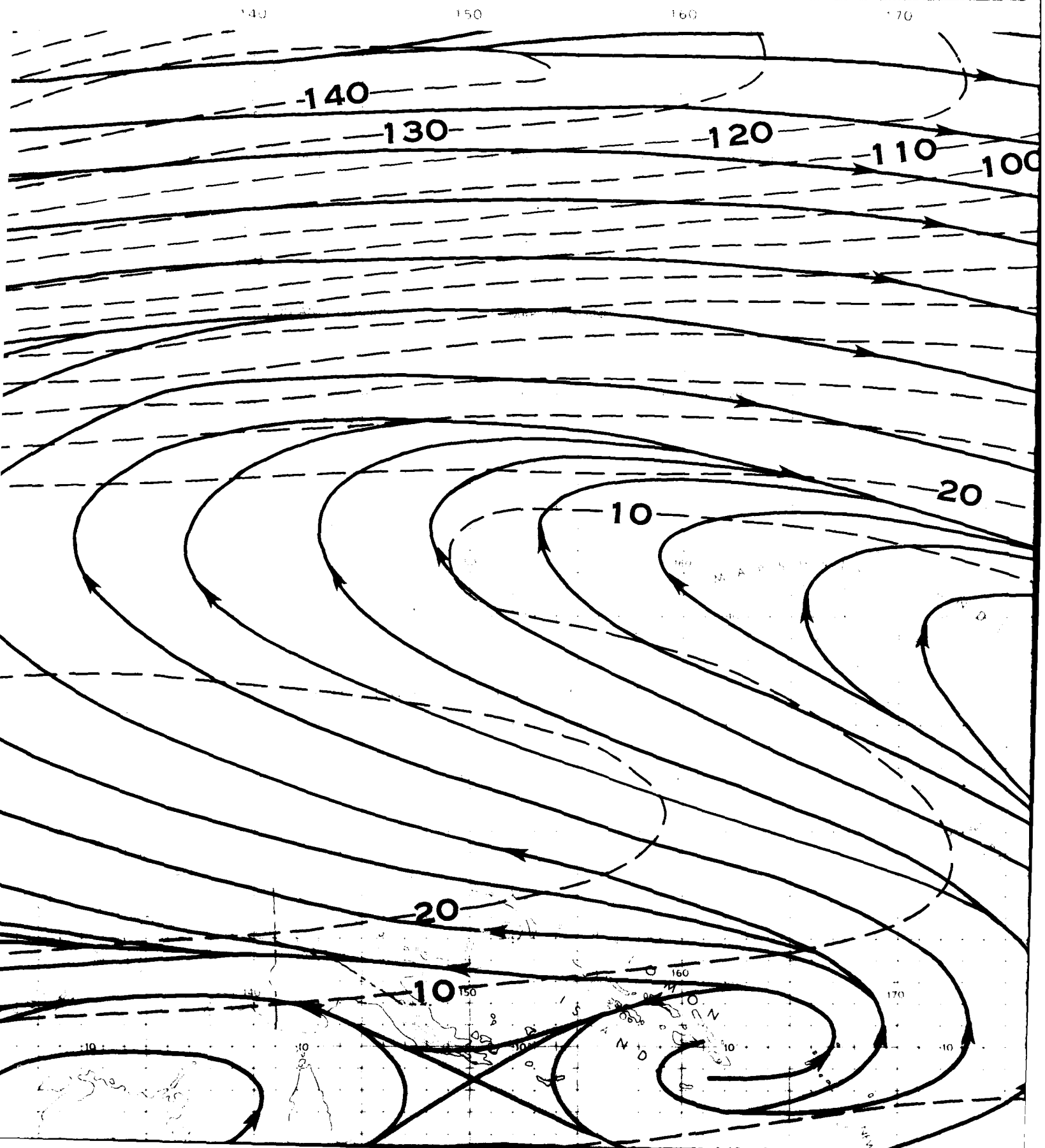
ME



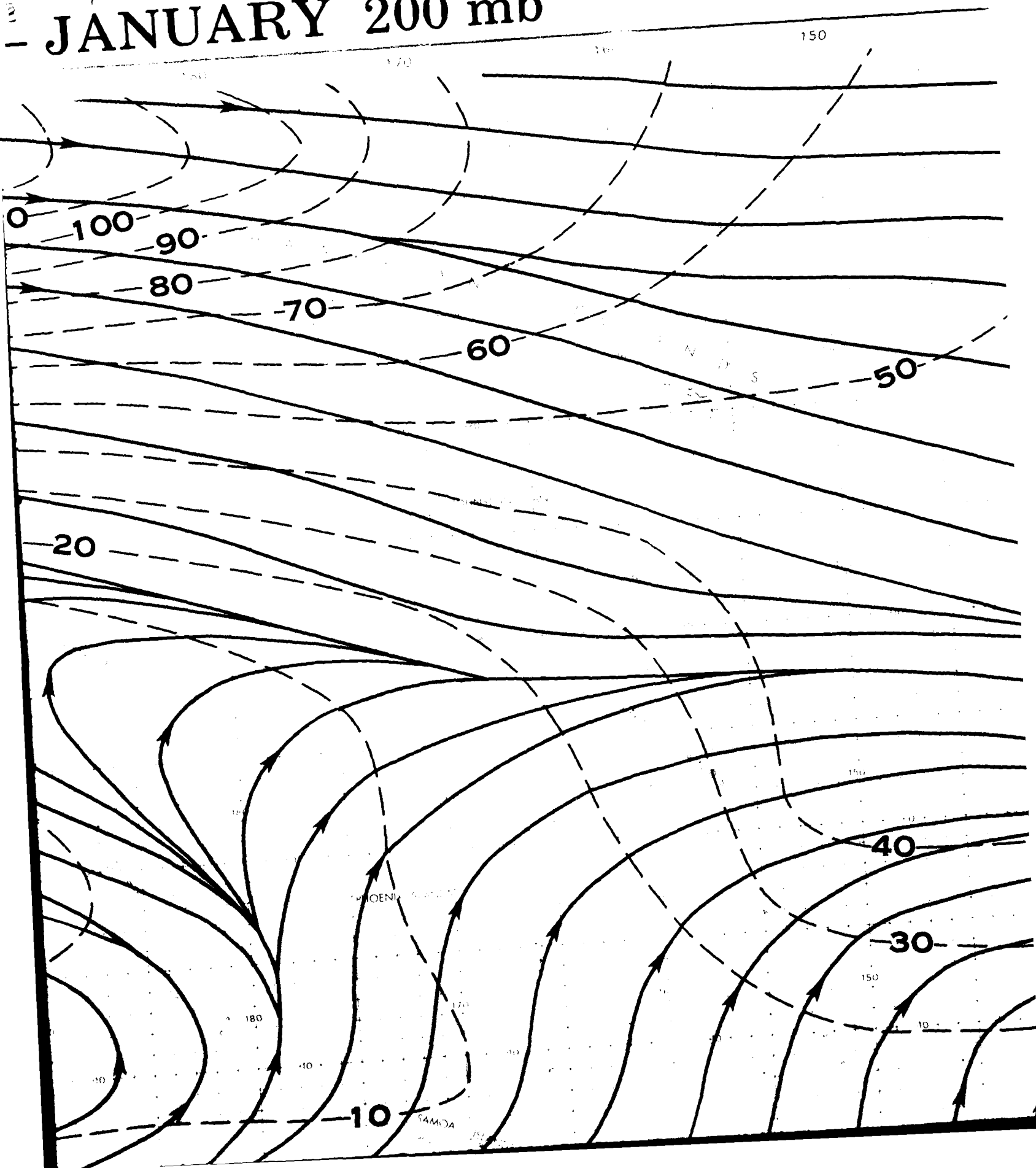
# MEAN UPPER LEVEL WINDS

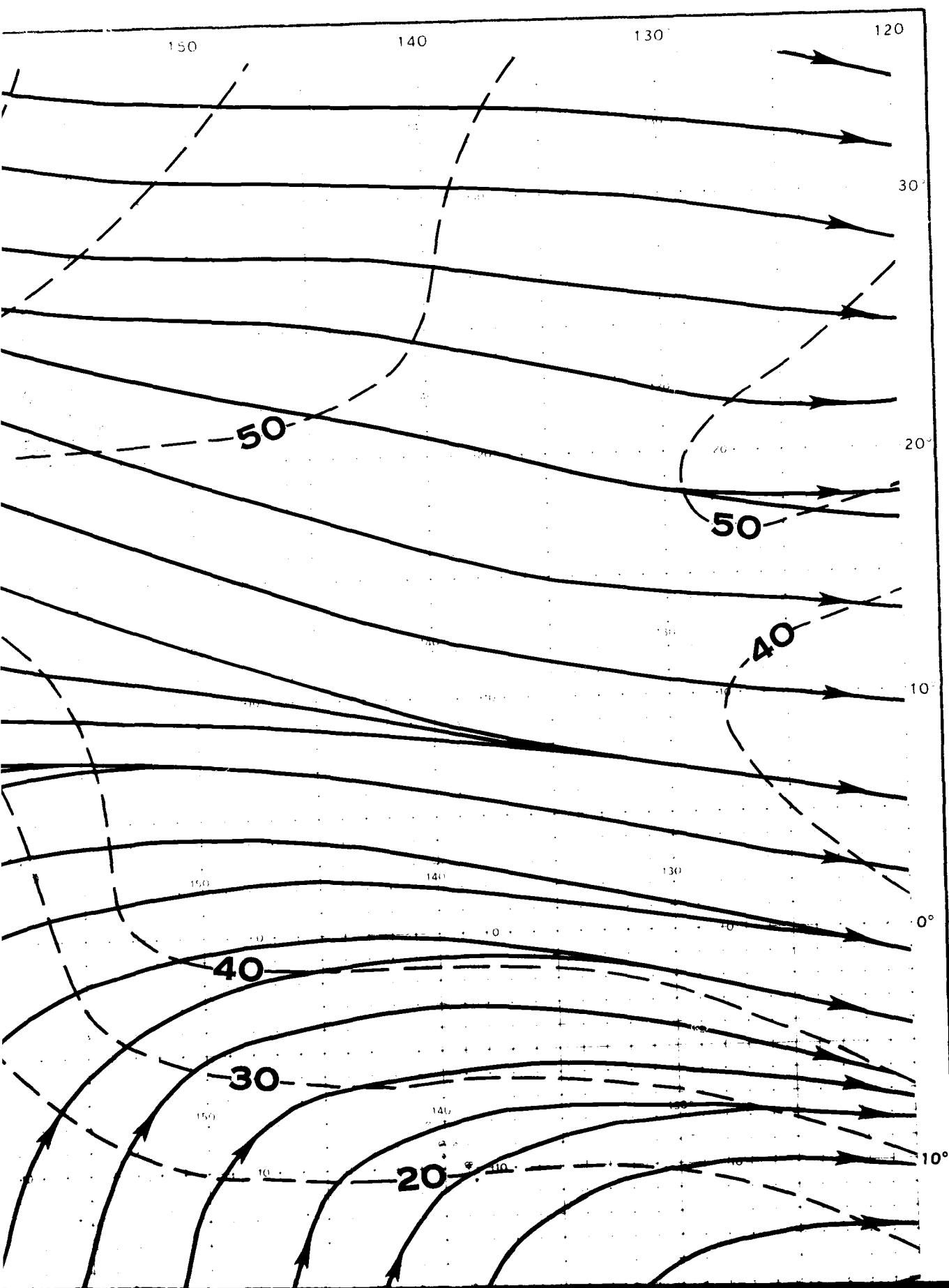


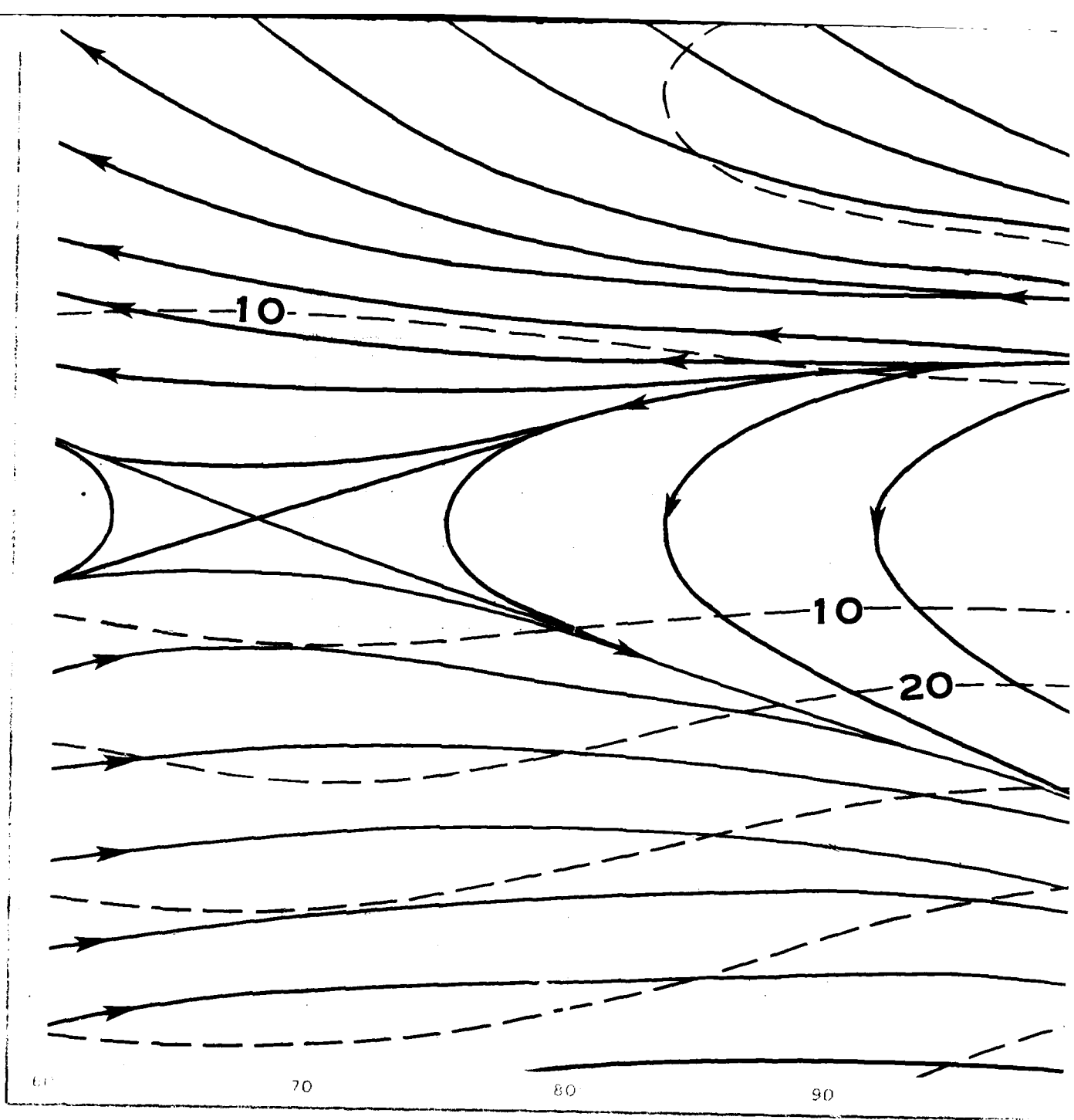
# WINDS over GLOBAL TROPICS - JA



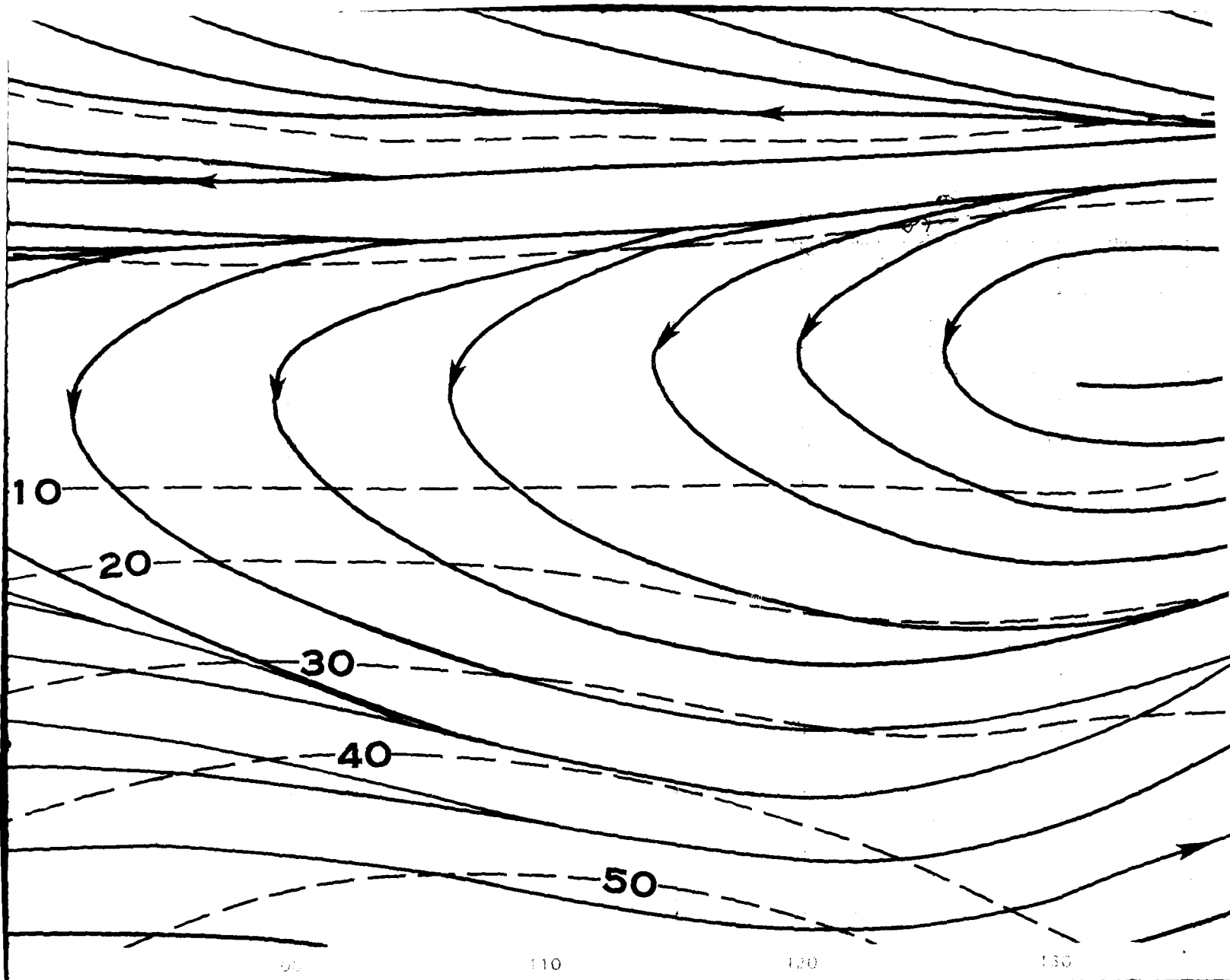
# JANUARY 200 mb



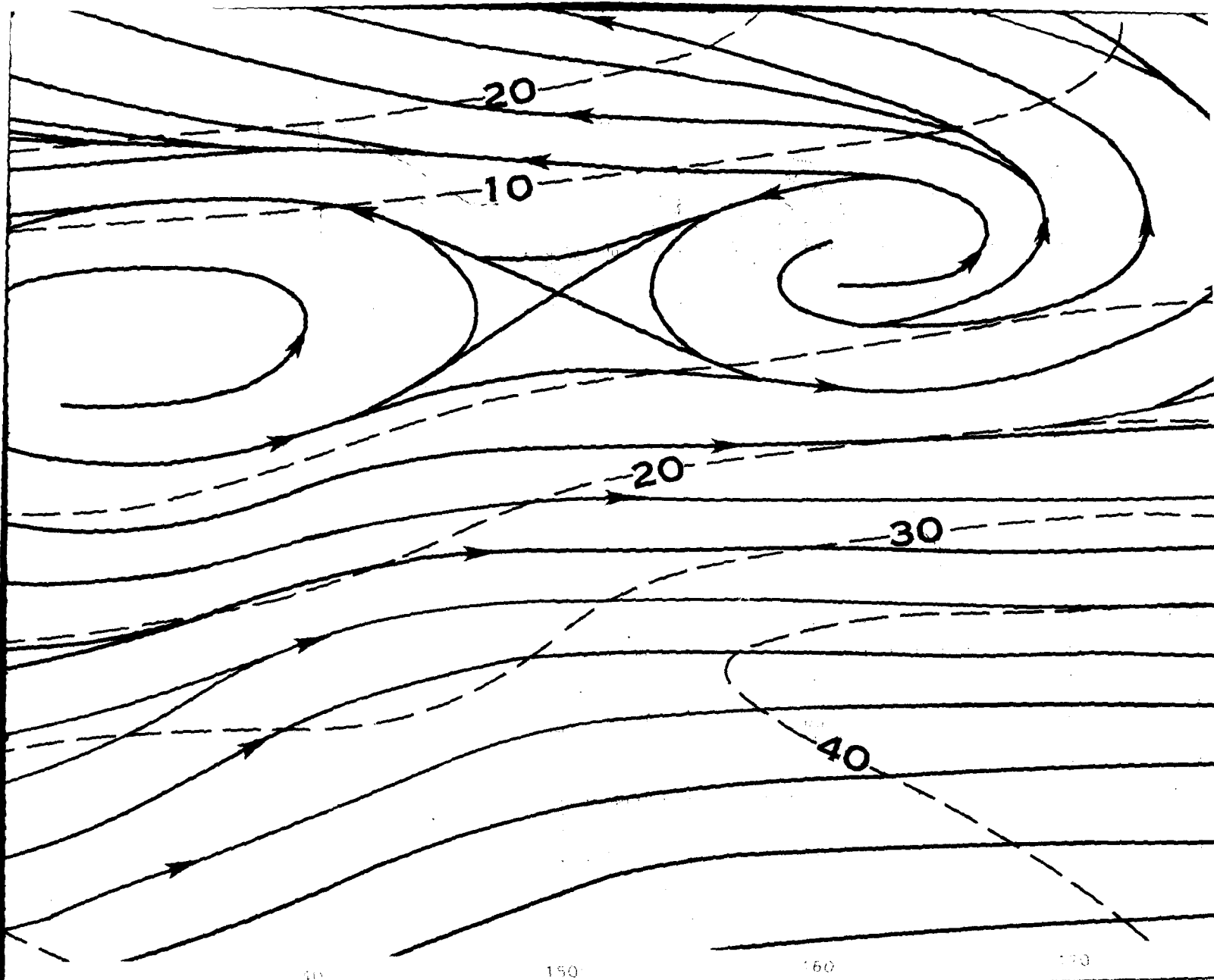






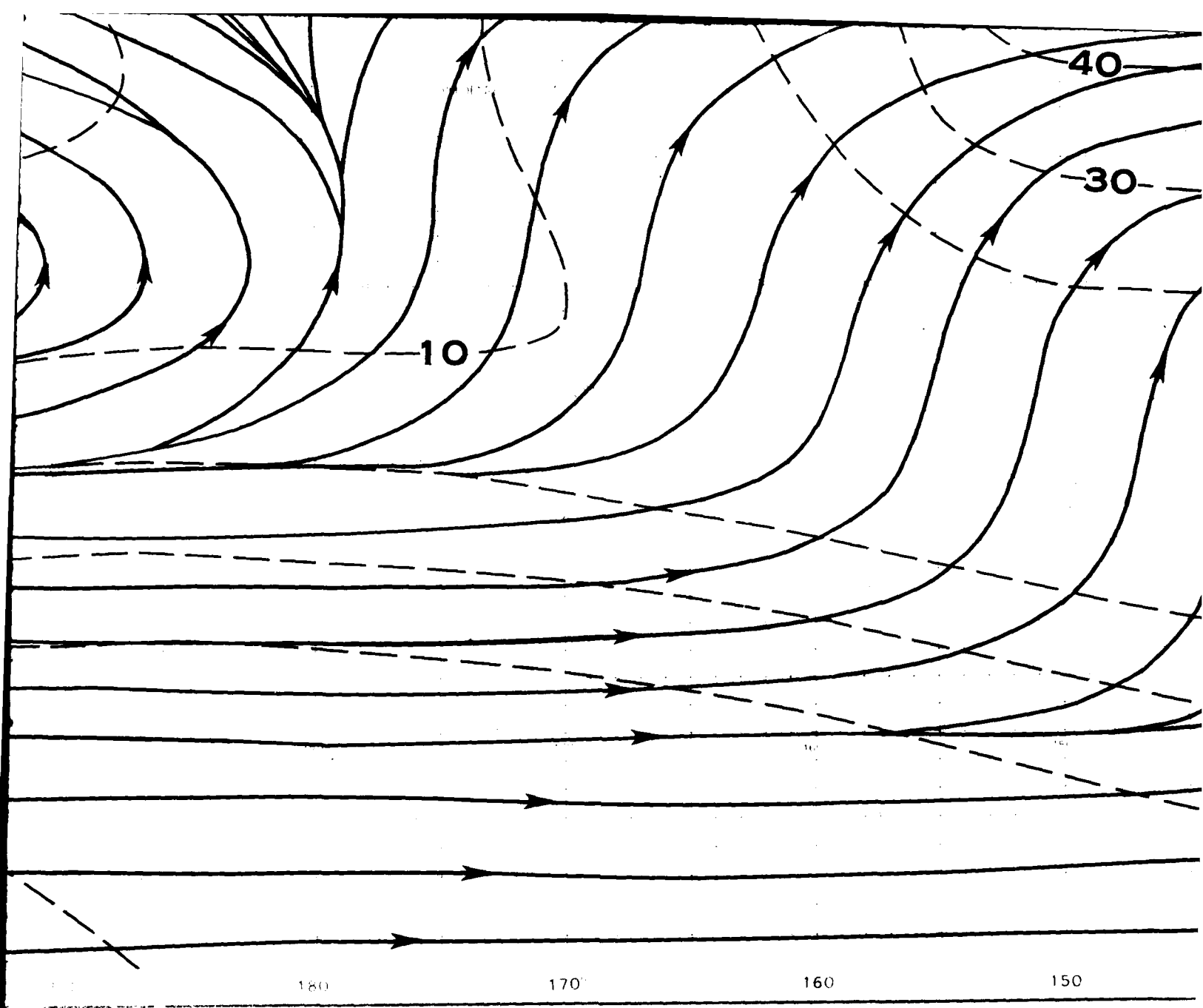


⑦



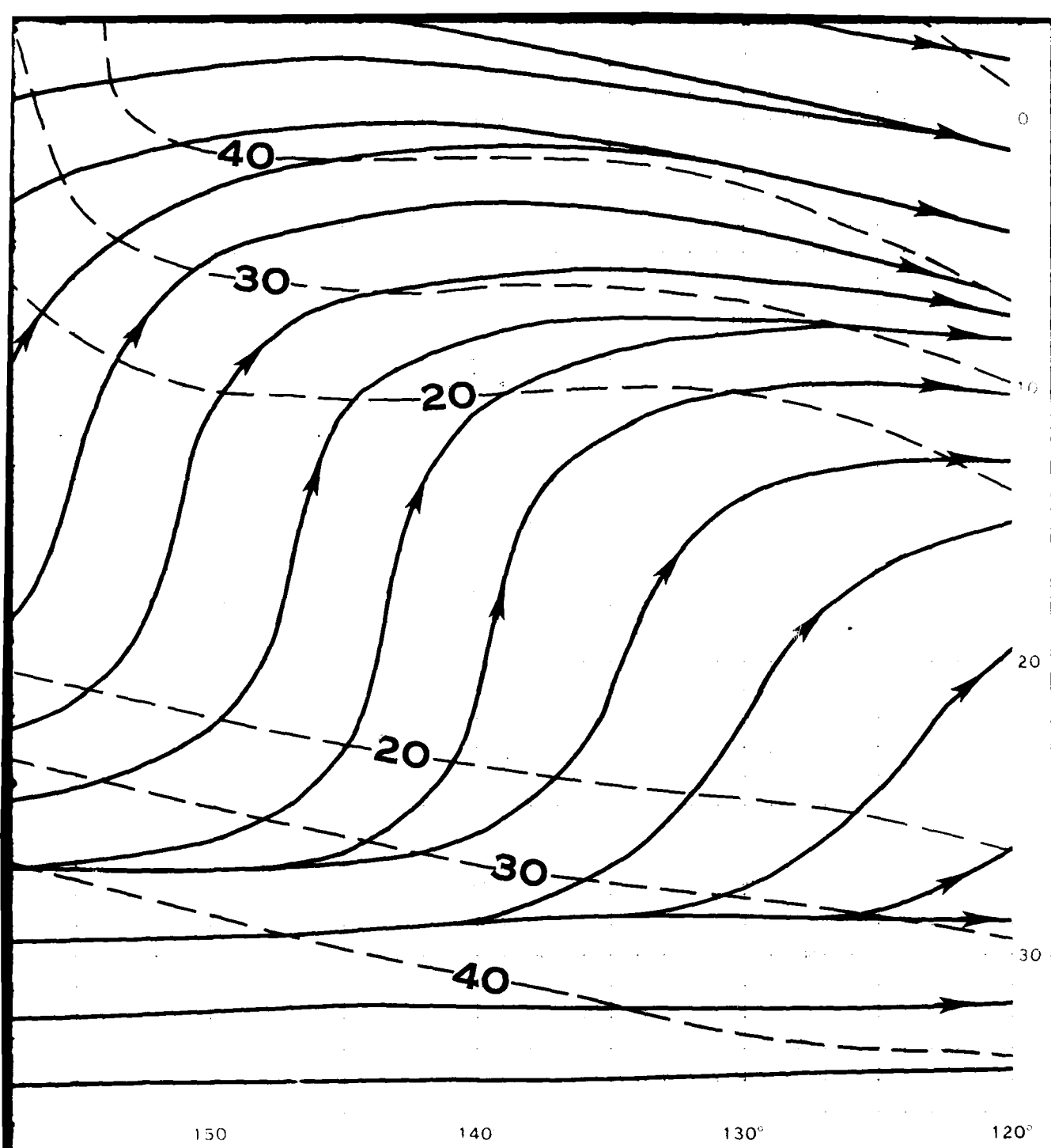
U.S. AIR FORCE  
WALLINGFORD, CT  
AUGUST 27, 1951

(8)



Temperature,  $^{\circ}\text{C}$

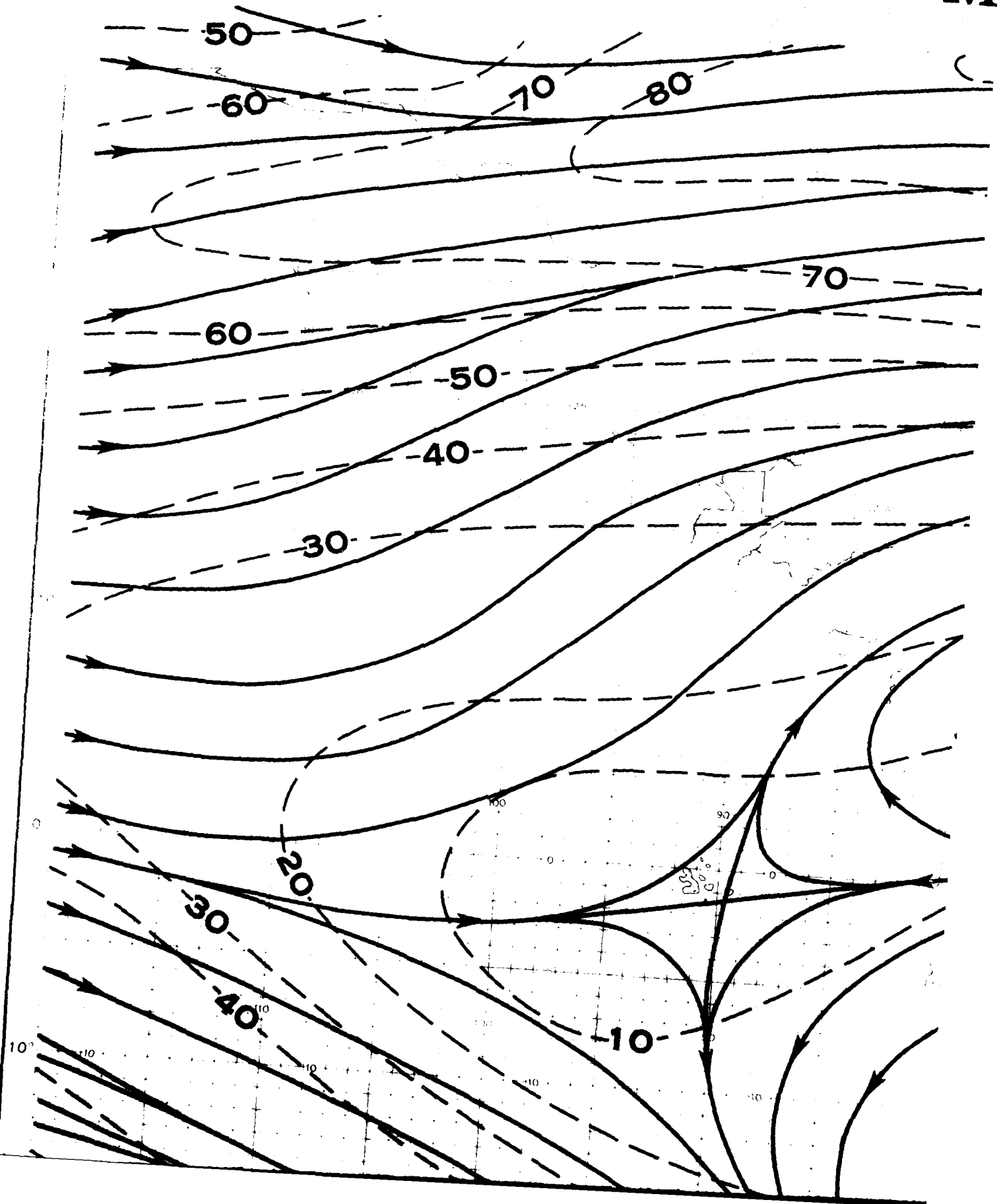
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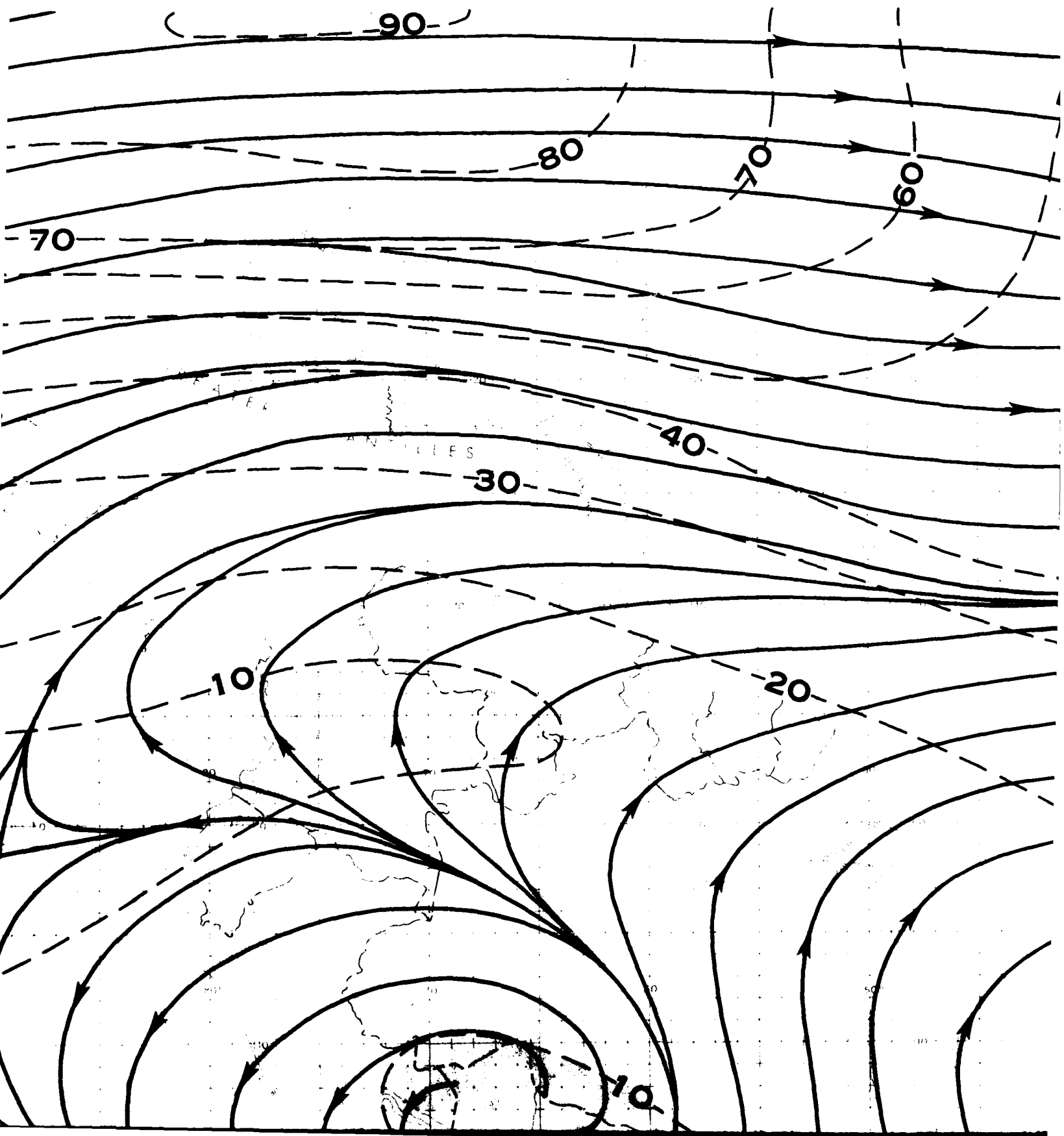
MULW-201E

10

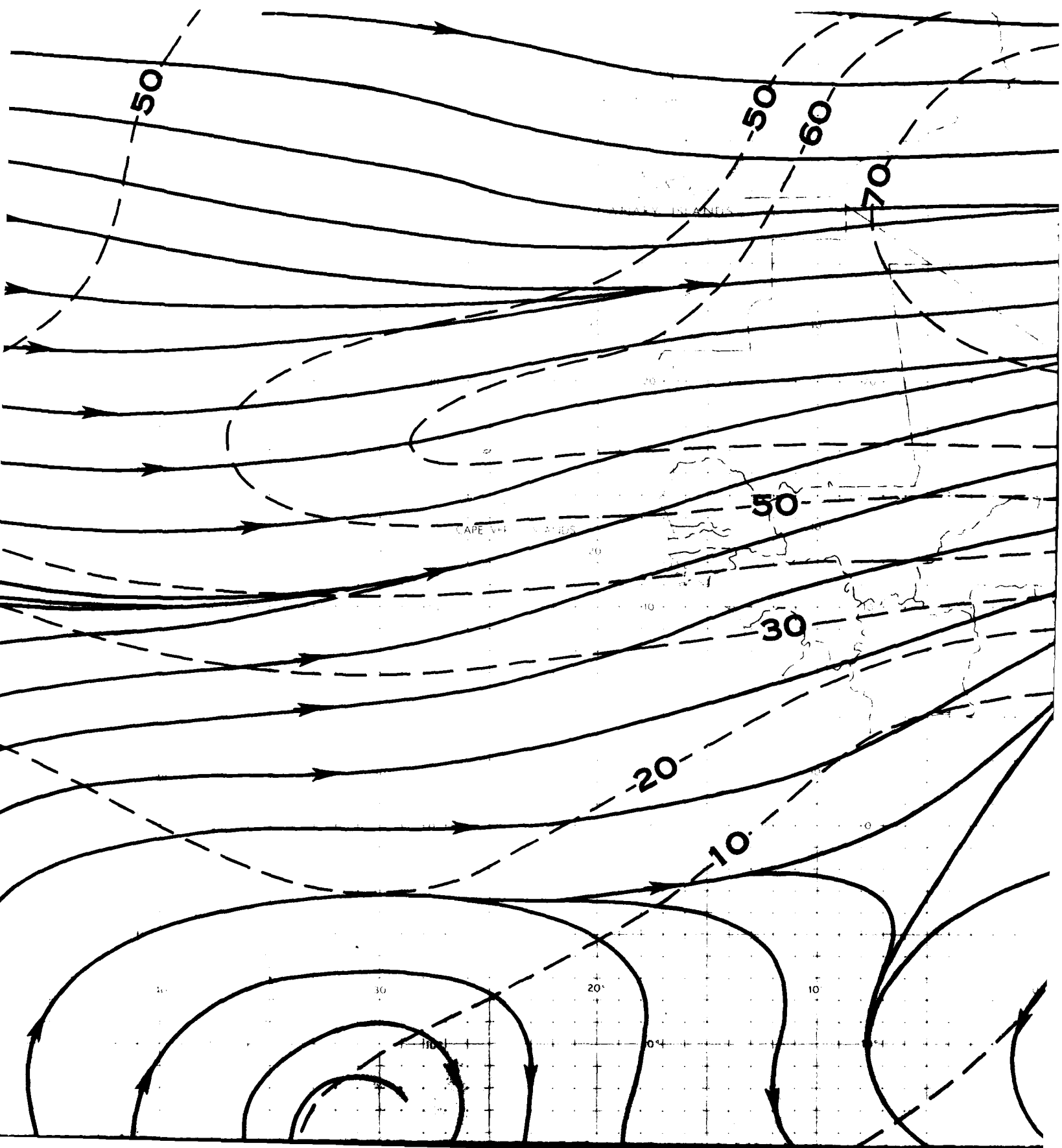
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# MEAN UPPER LEVEL WINDS

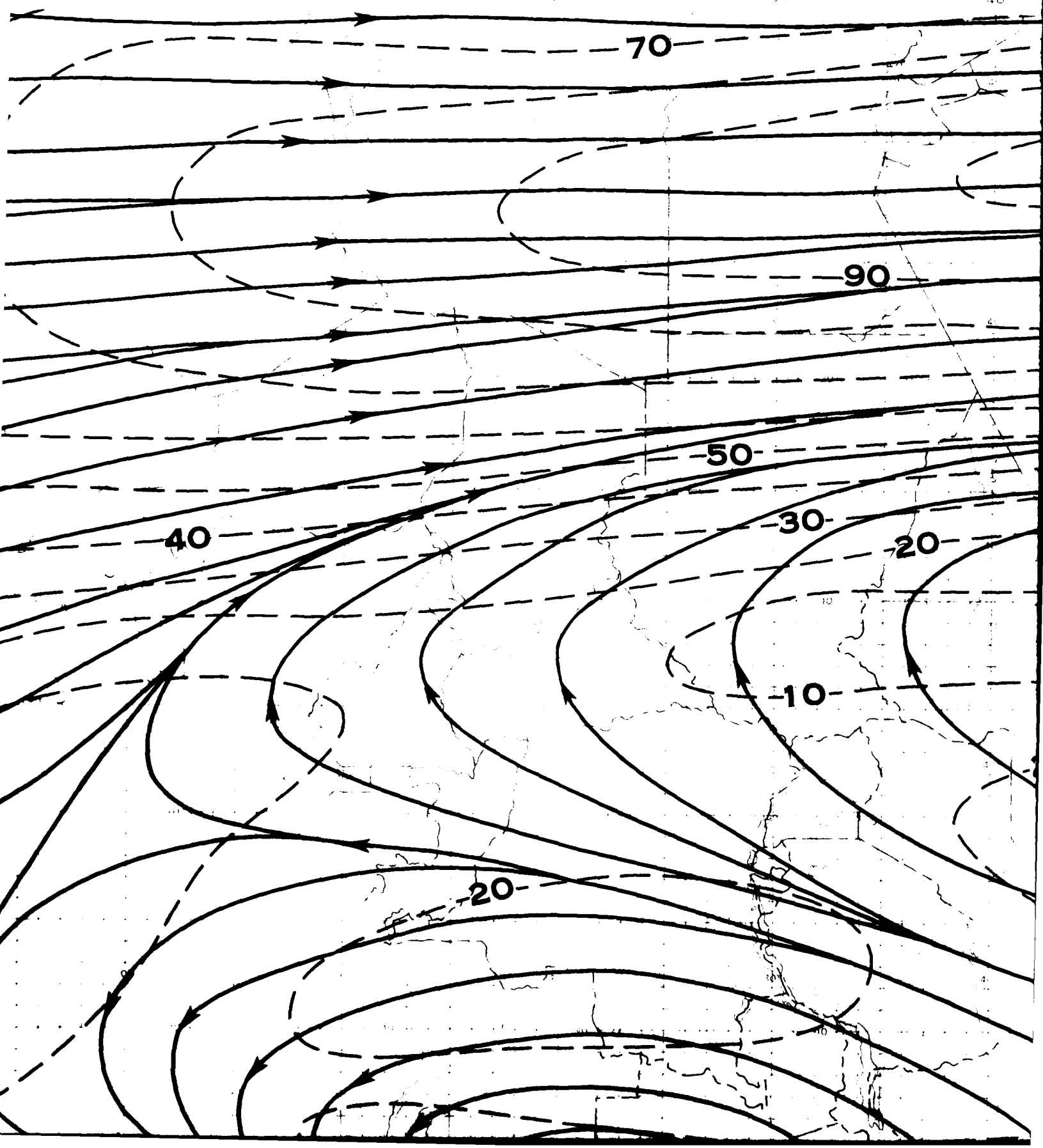


# IDS over GLOBAL TROPICS - FEBR

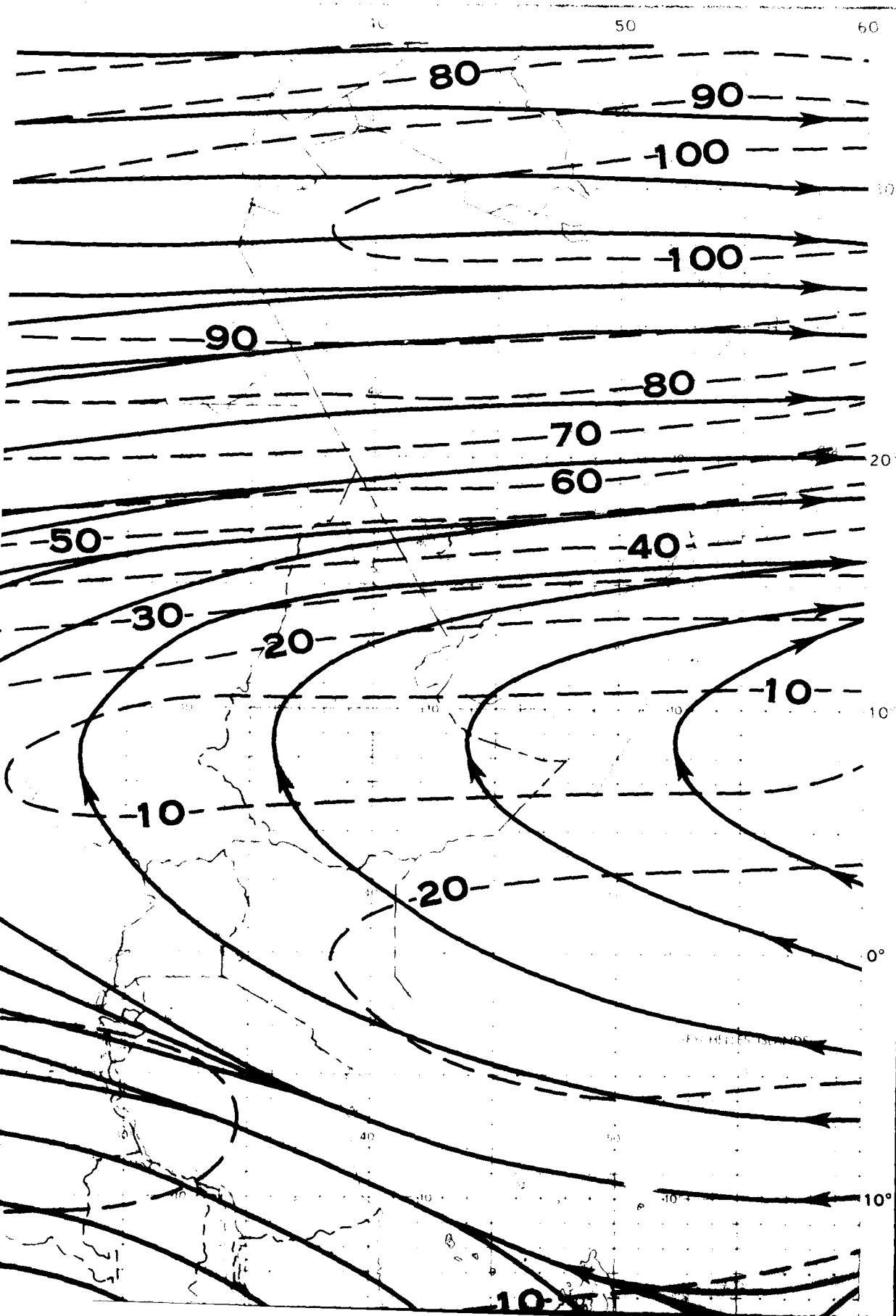


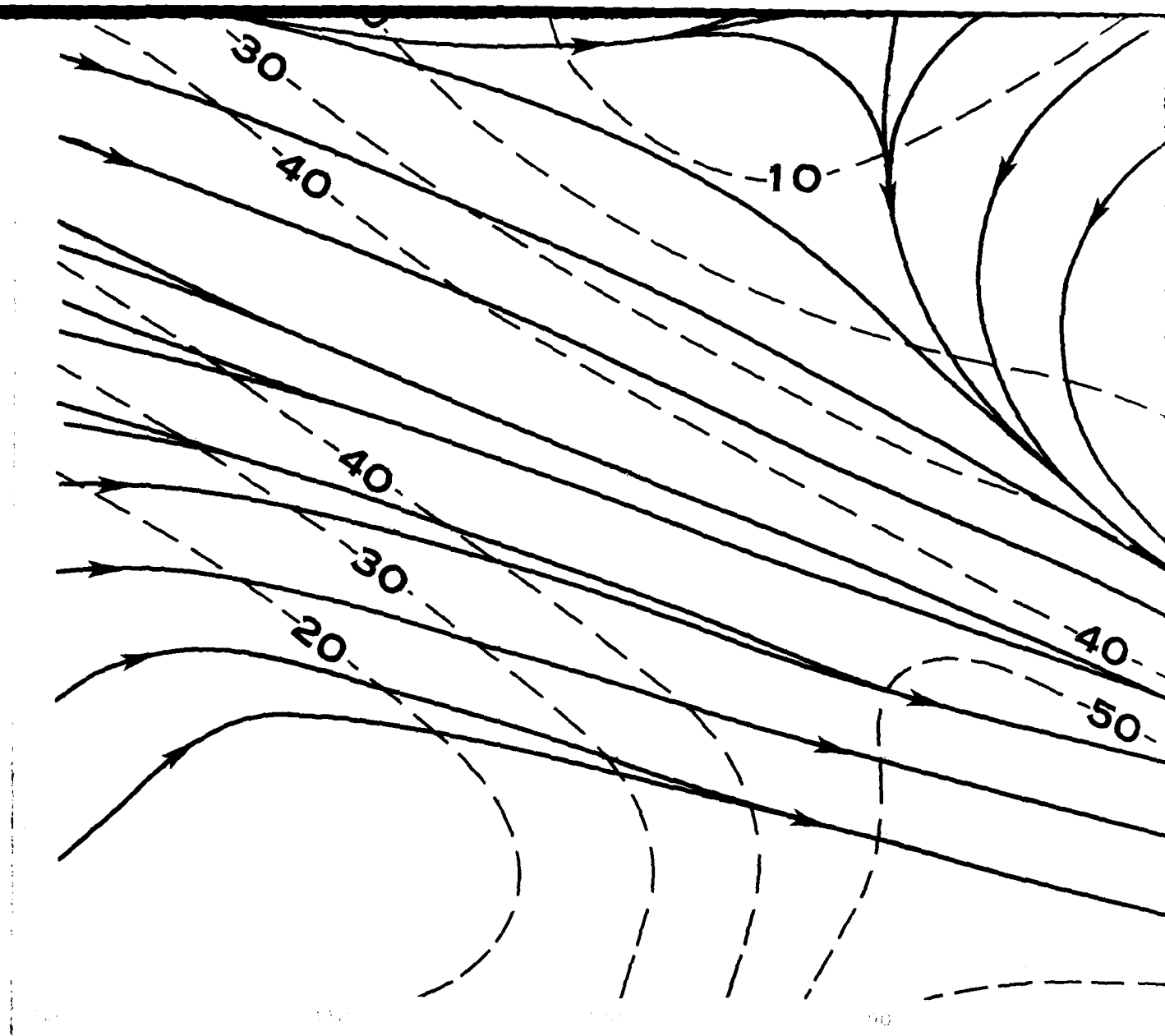
# FEBRUARY 200 mb

4

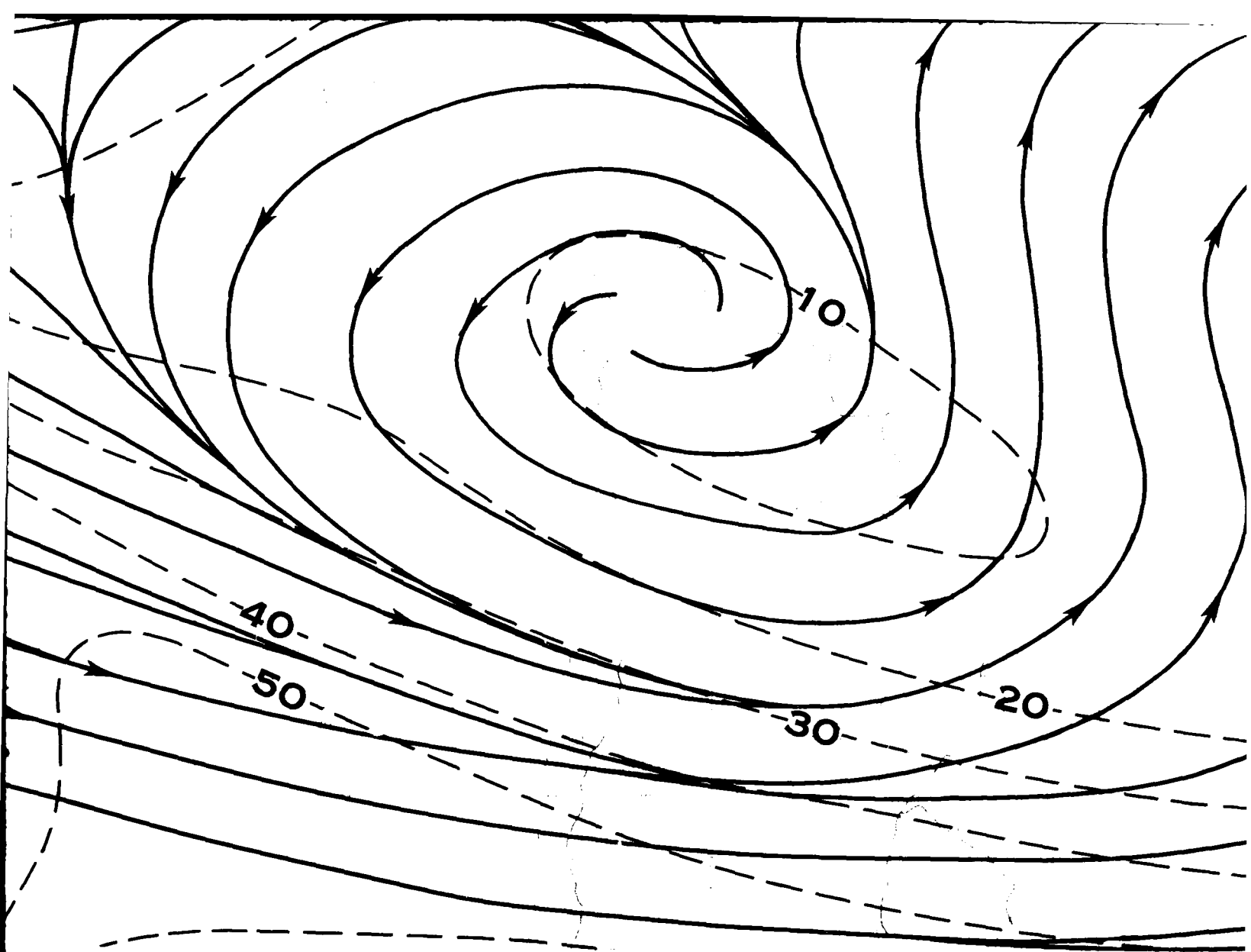




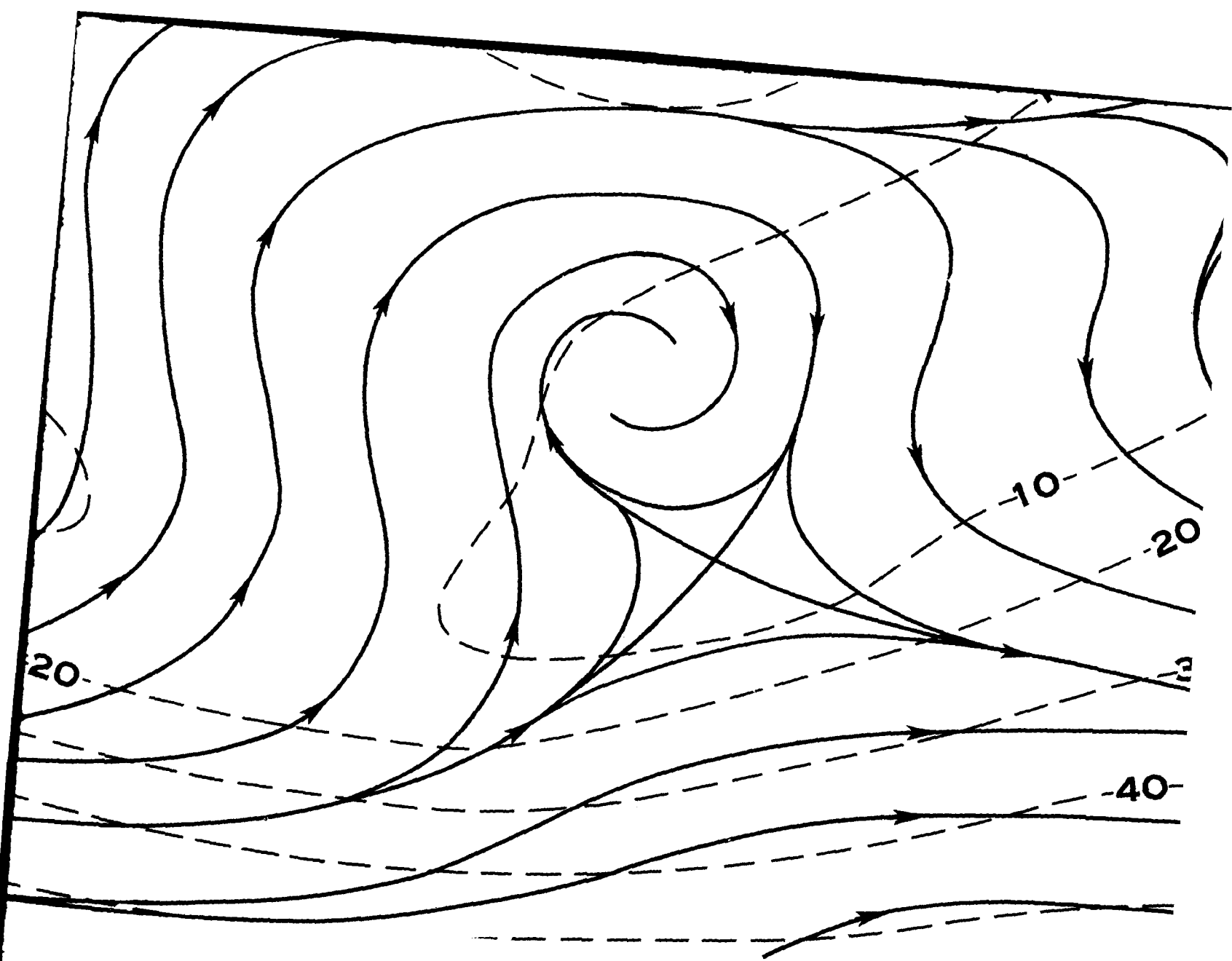




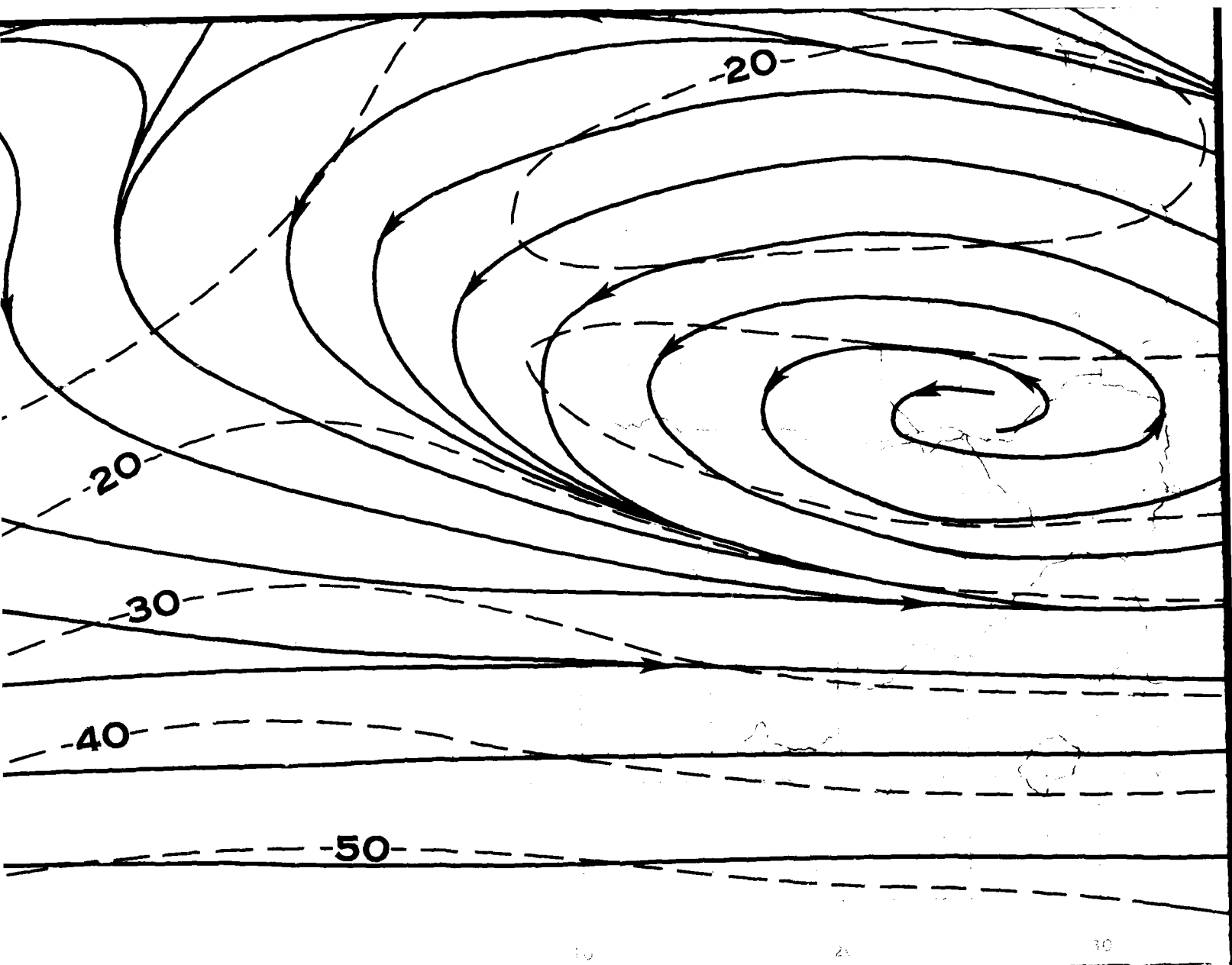
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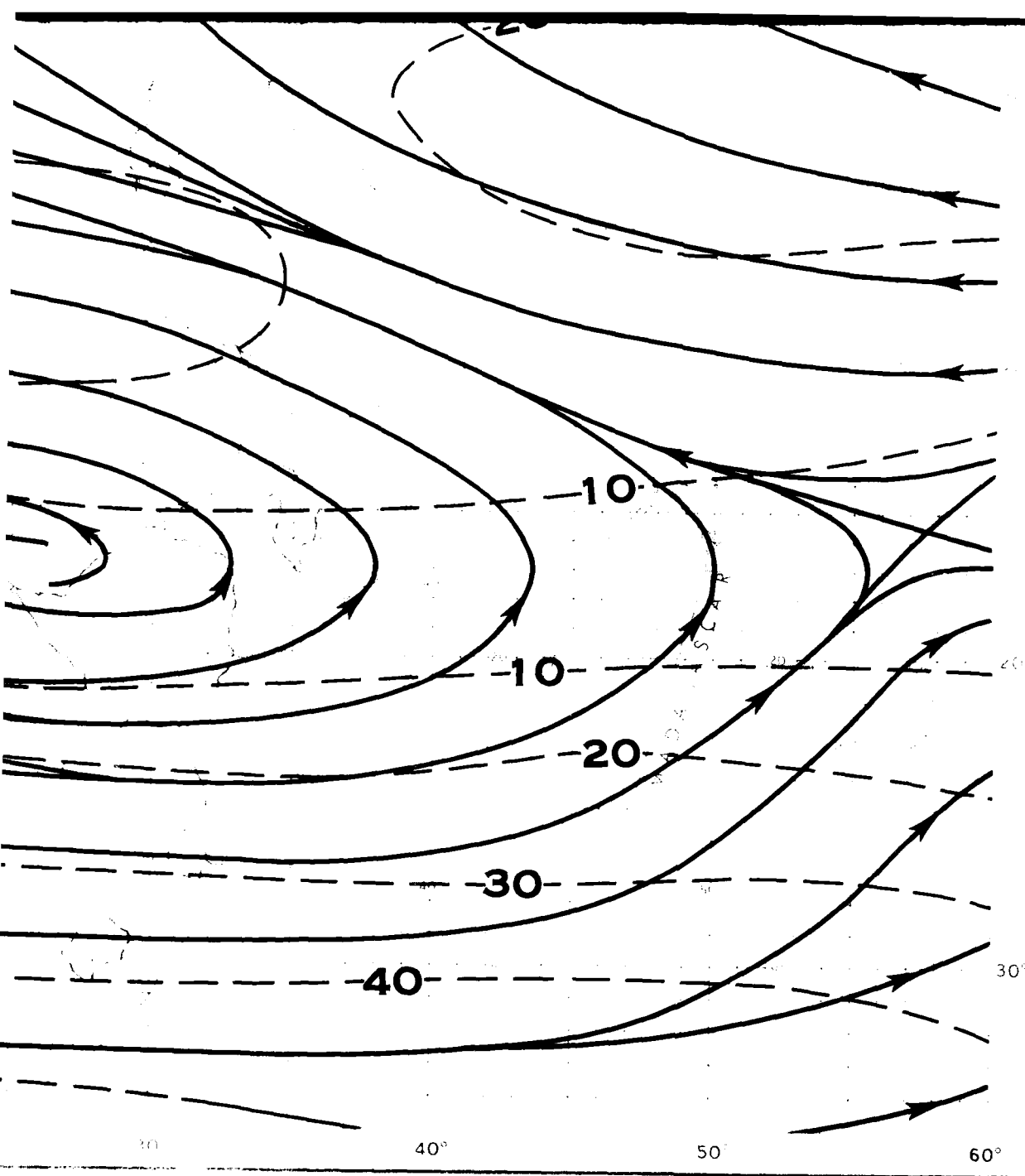
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3



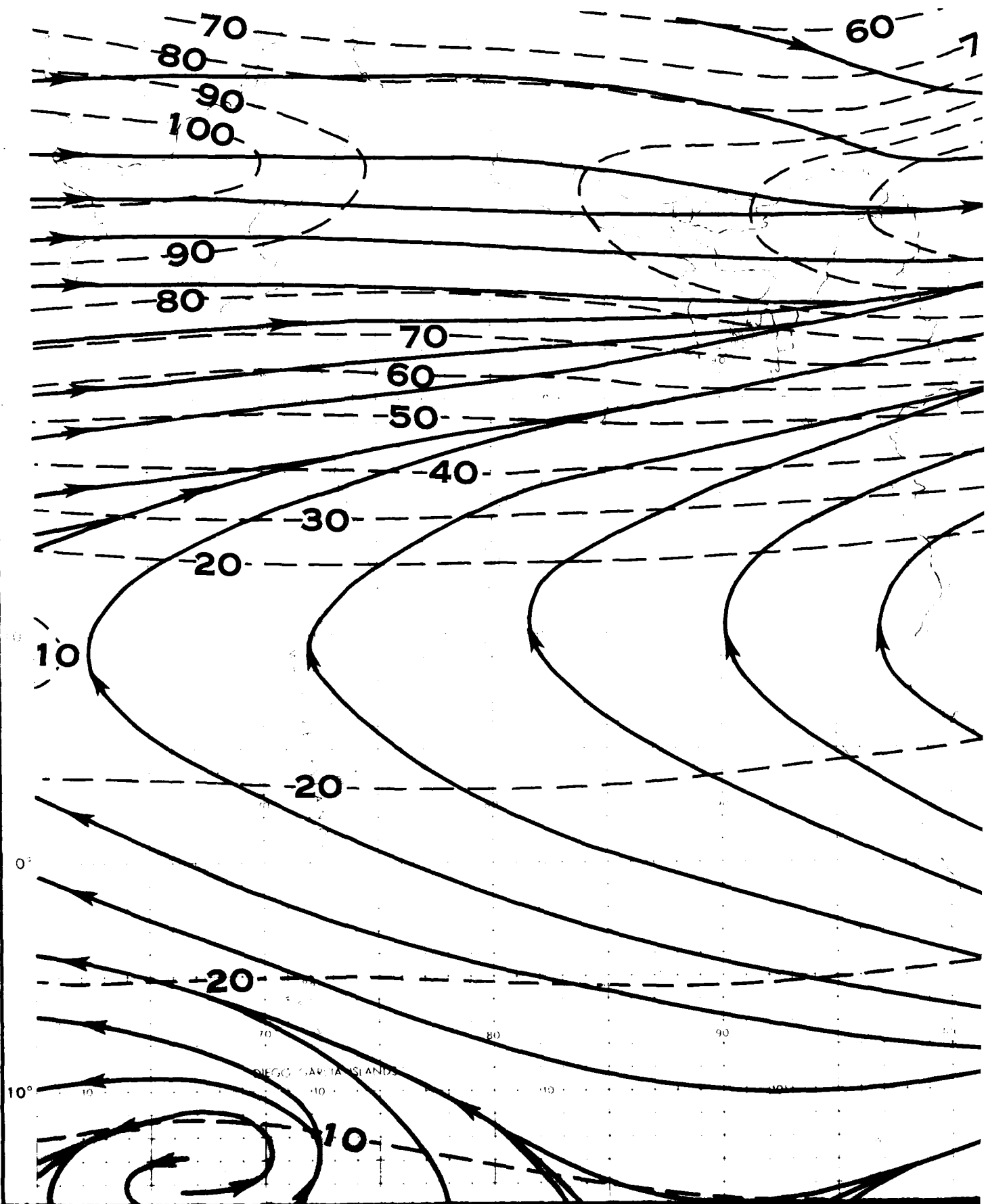
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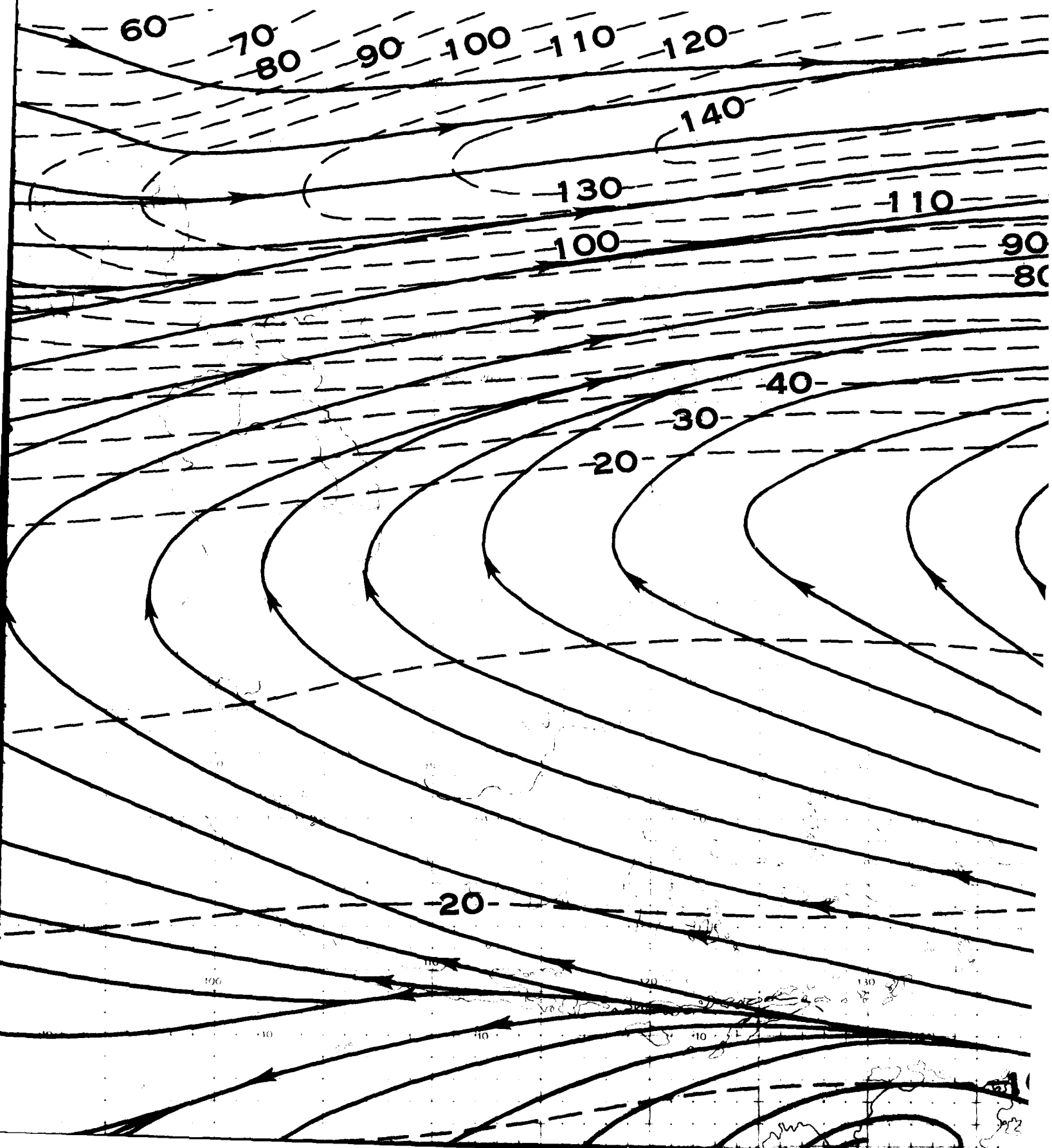
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MULW-202W

ME

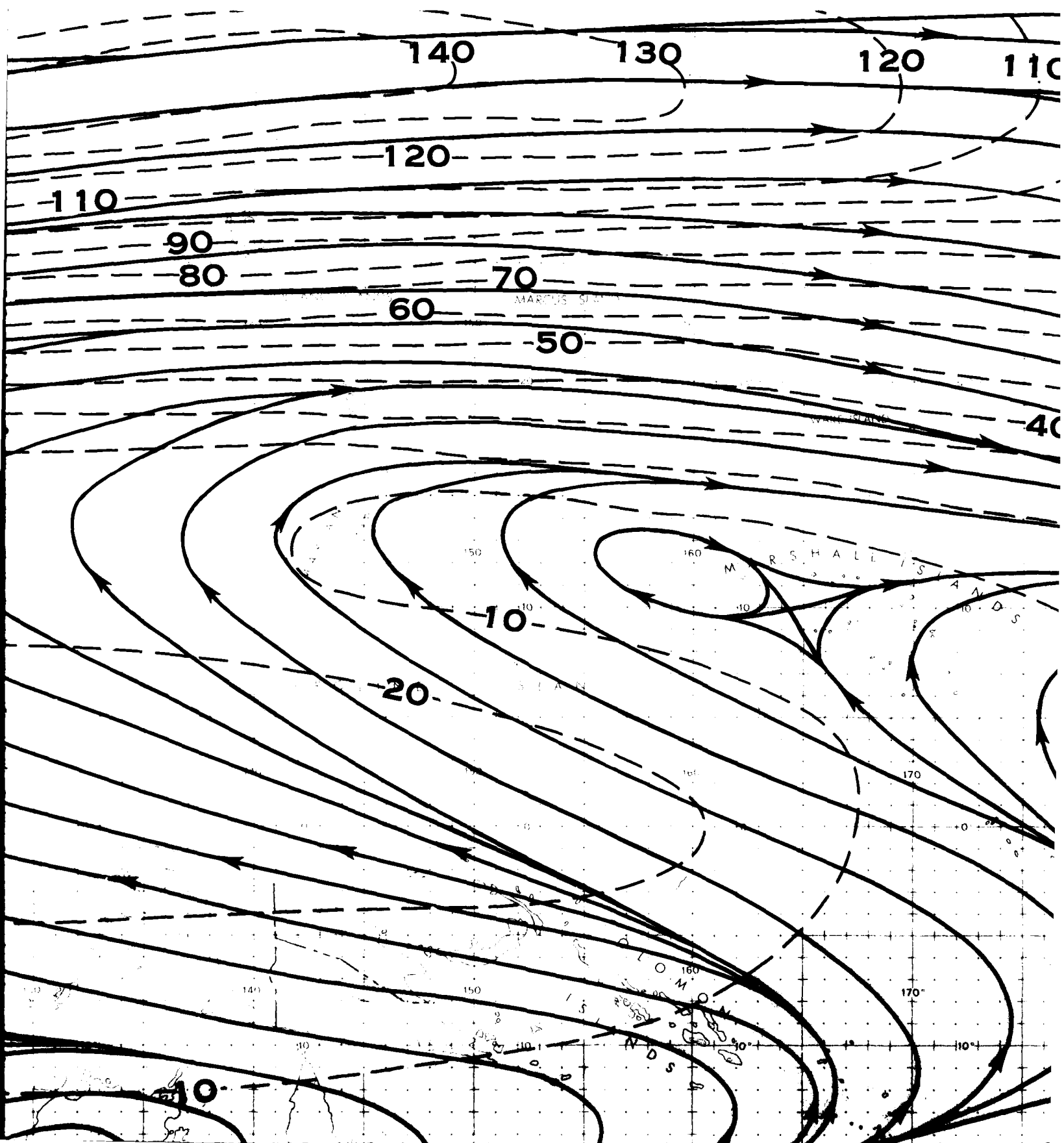


# MEAN UPPER LEVEL WINDS

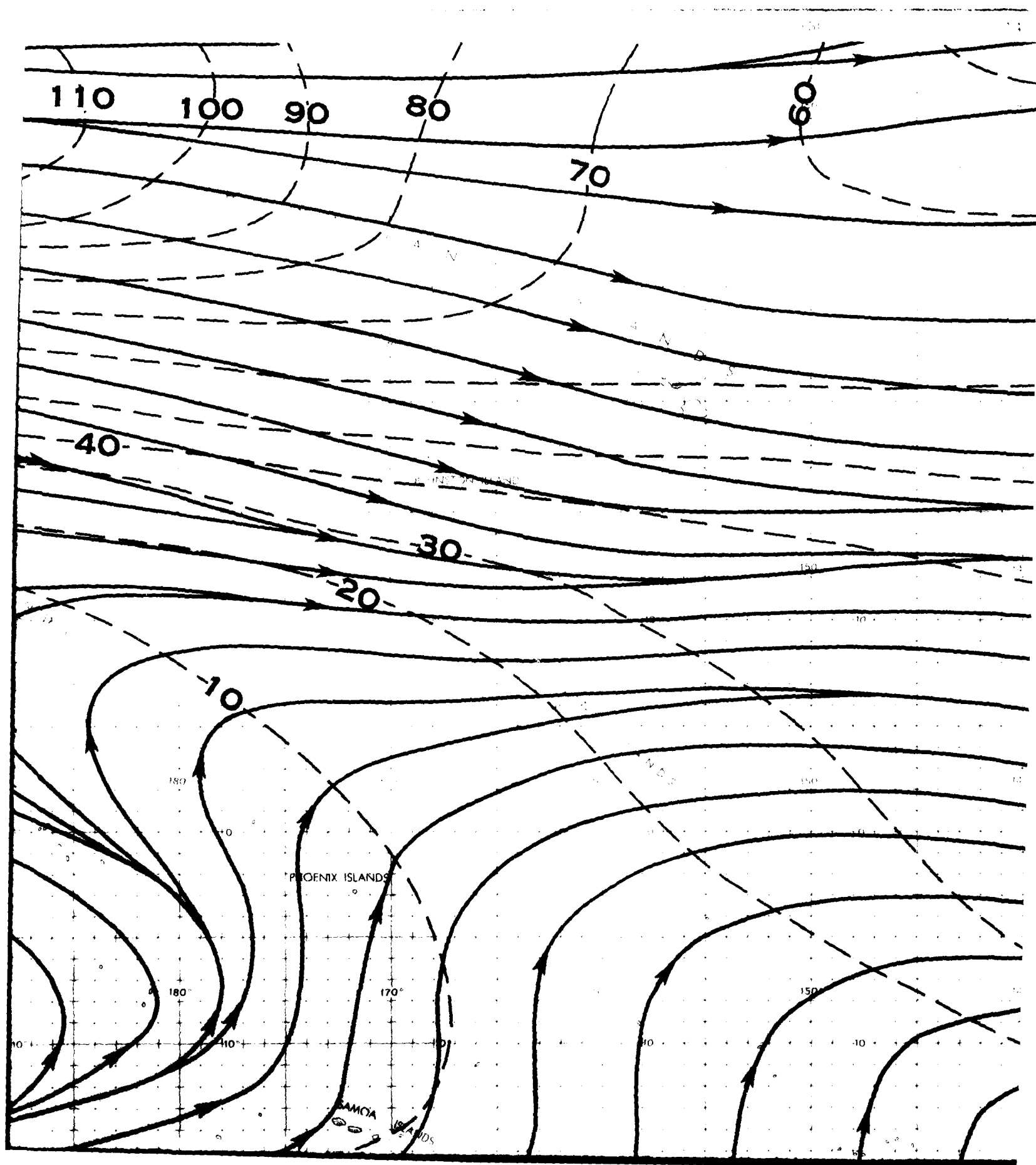


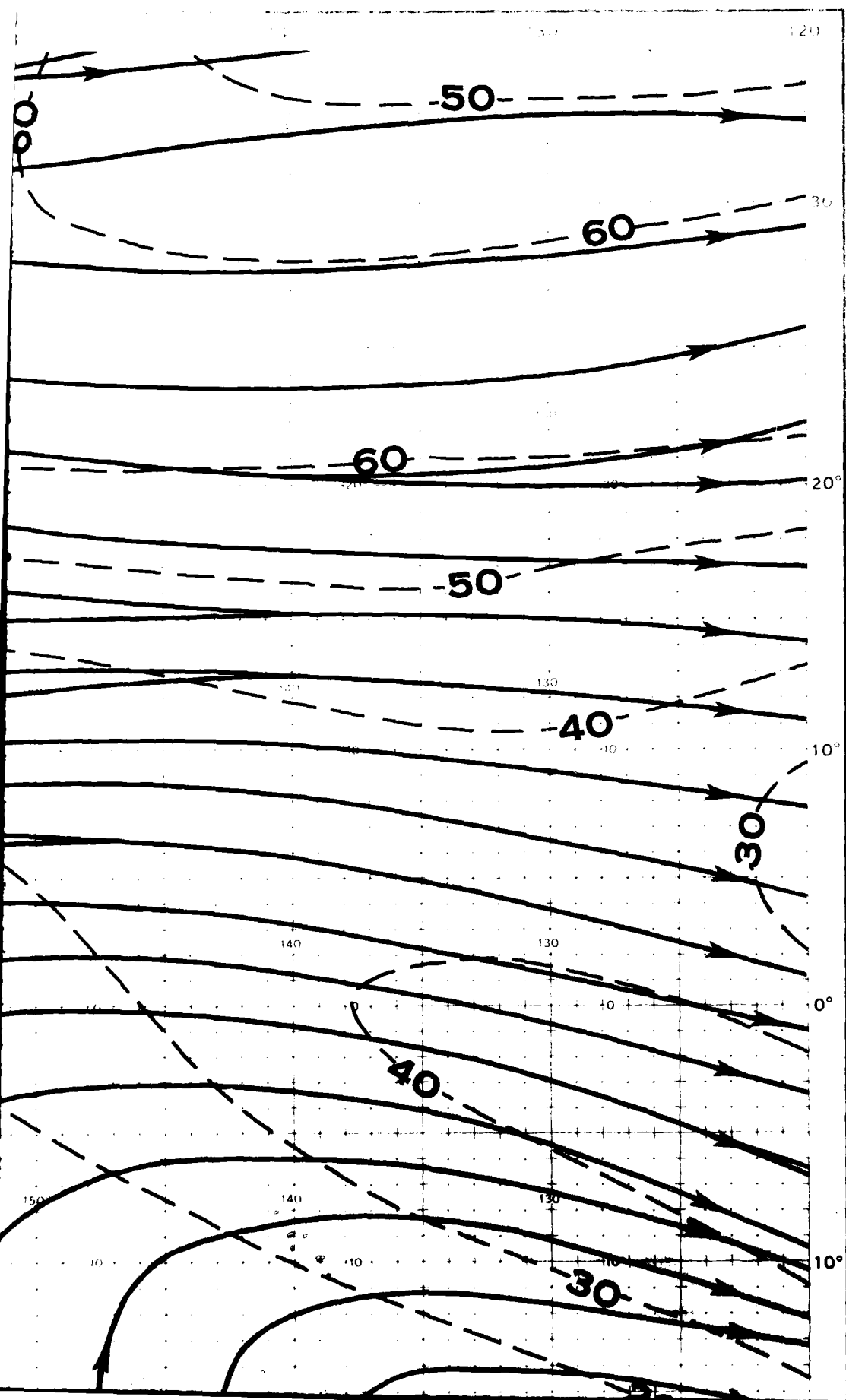


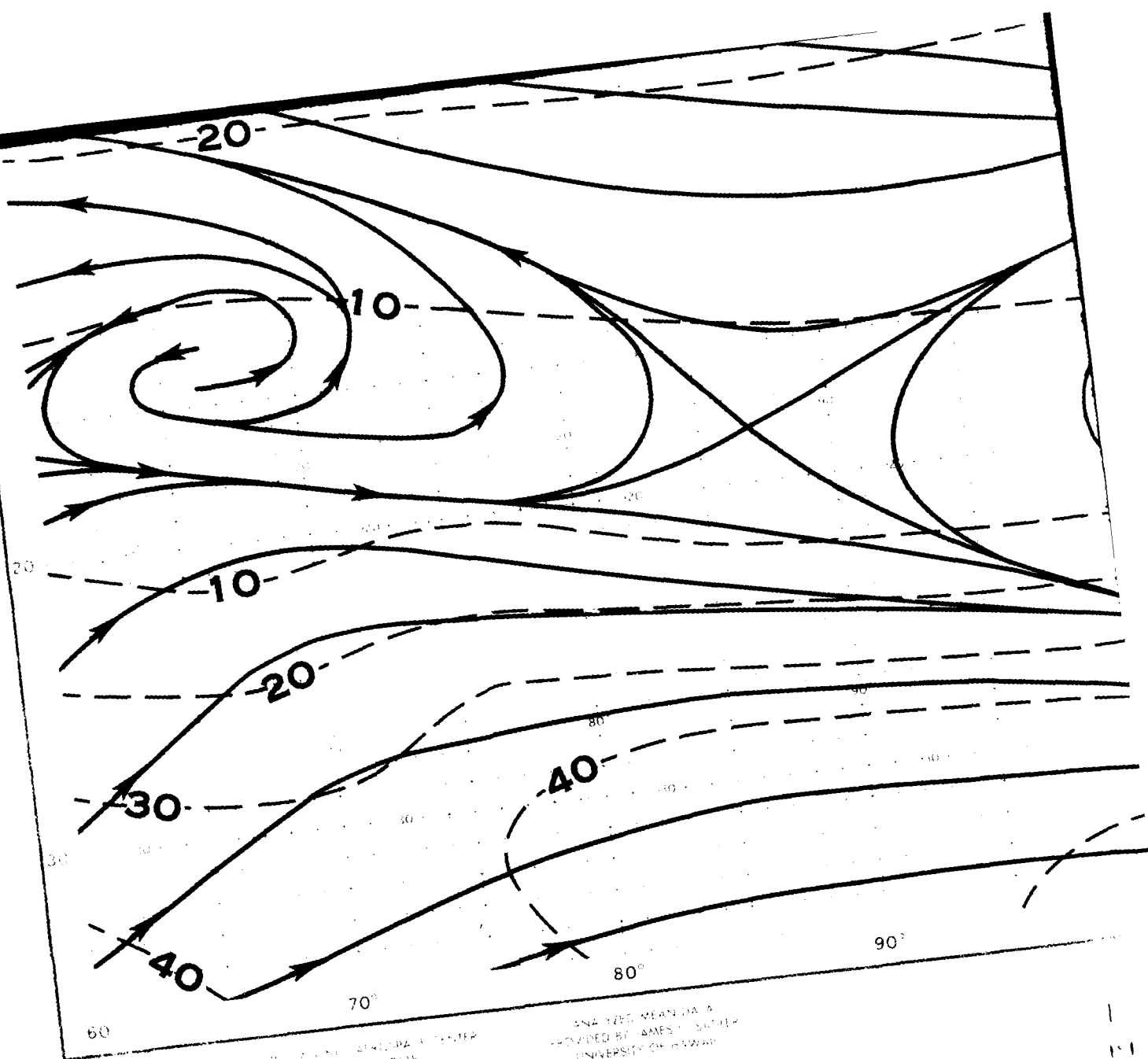
# WINDS over GLOBAL TROPICS - FEB



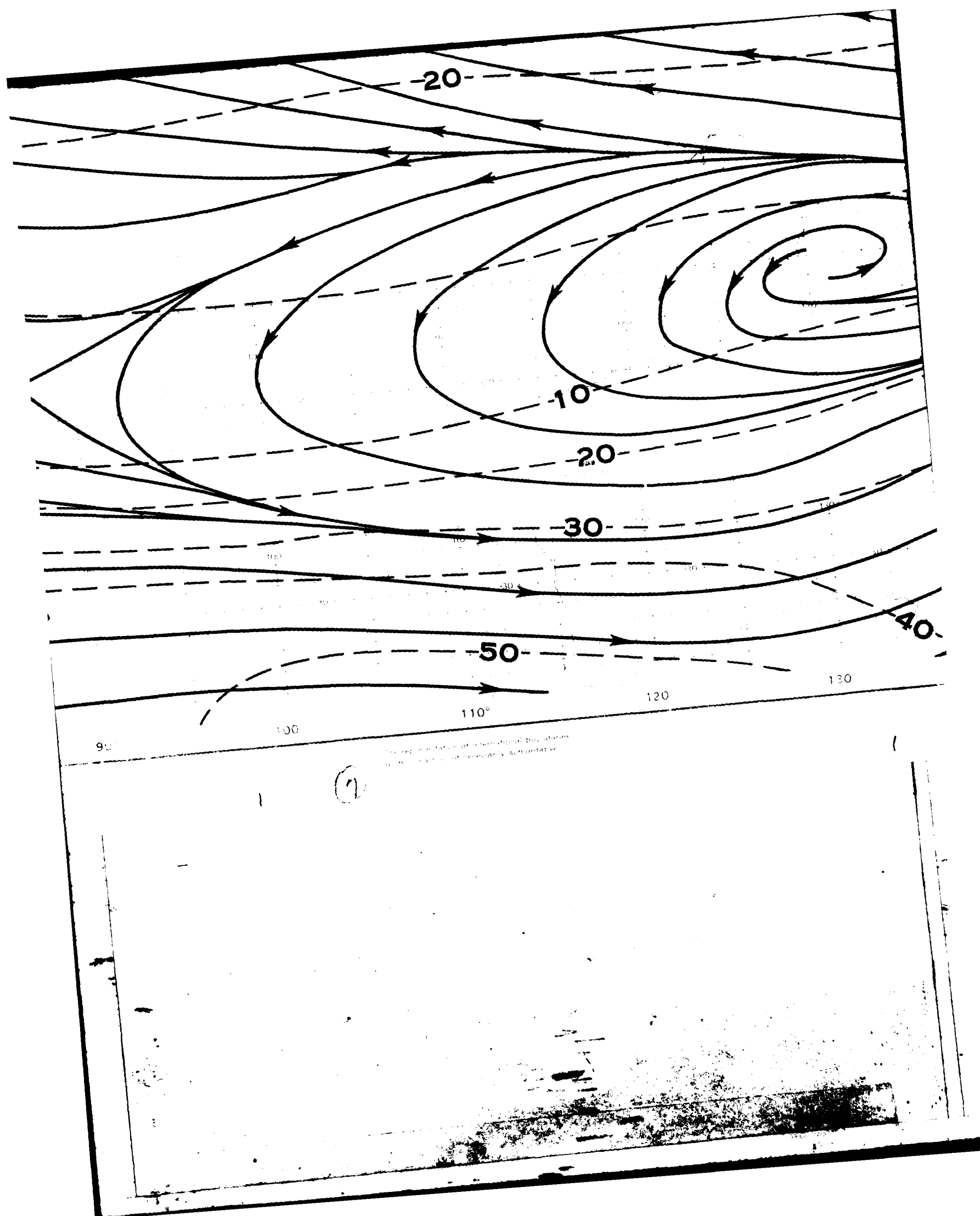
# FEBRUARY 200 mb

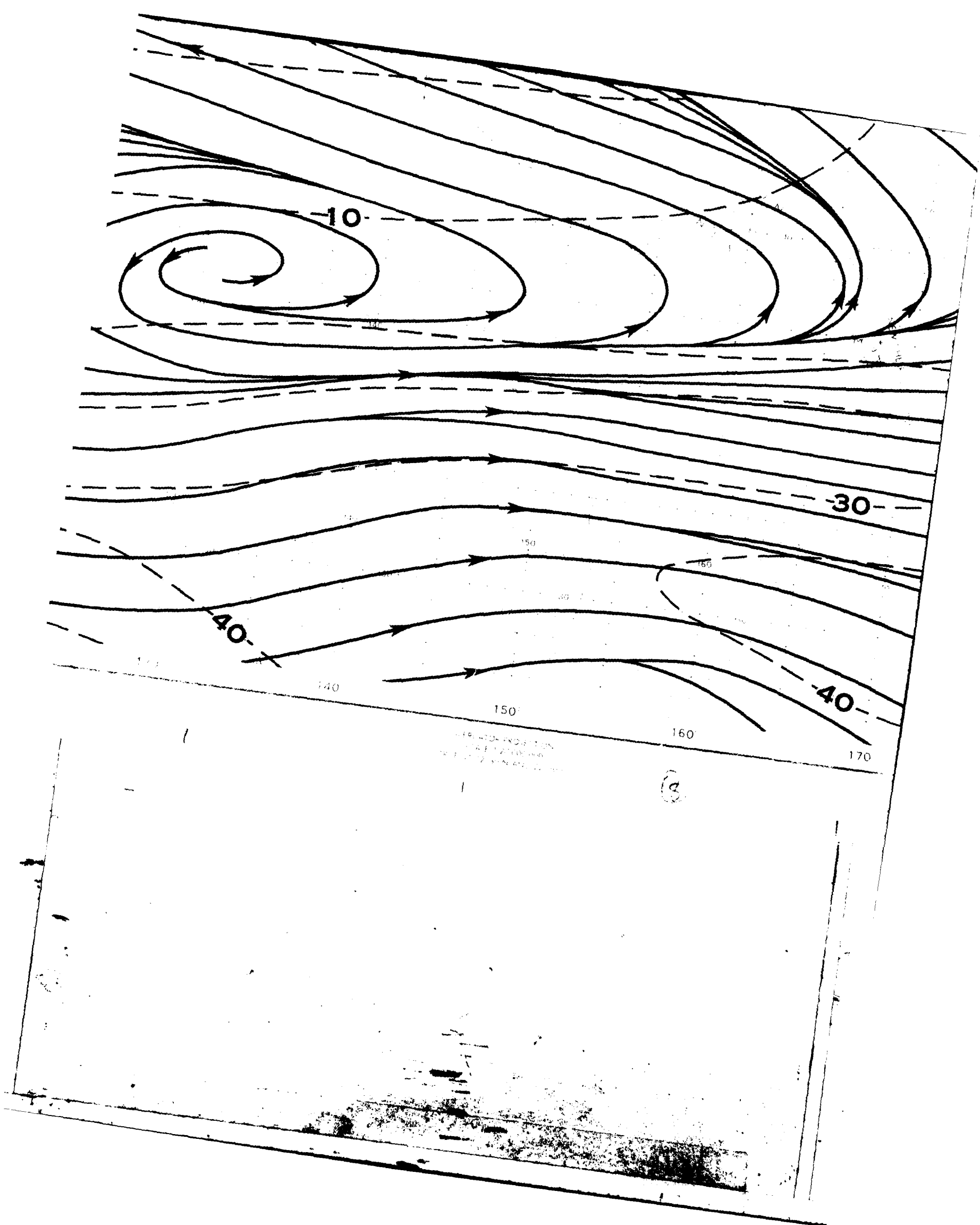


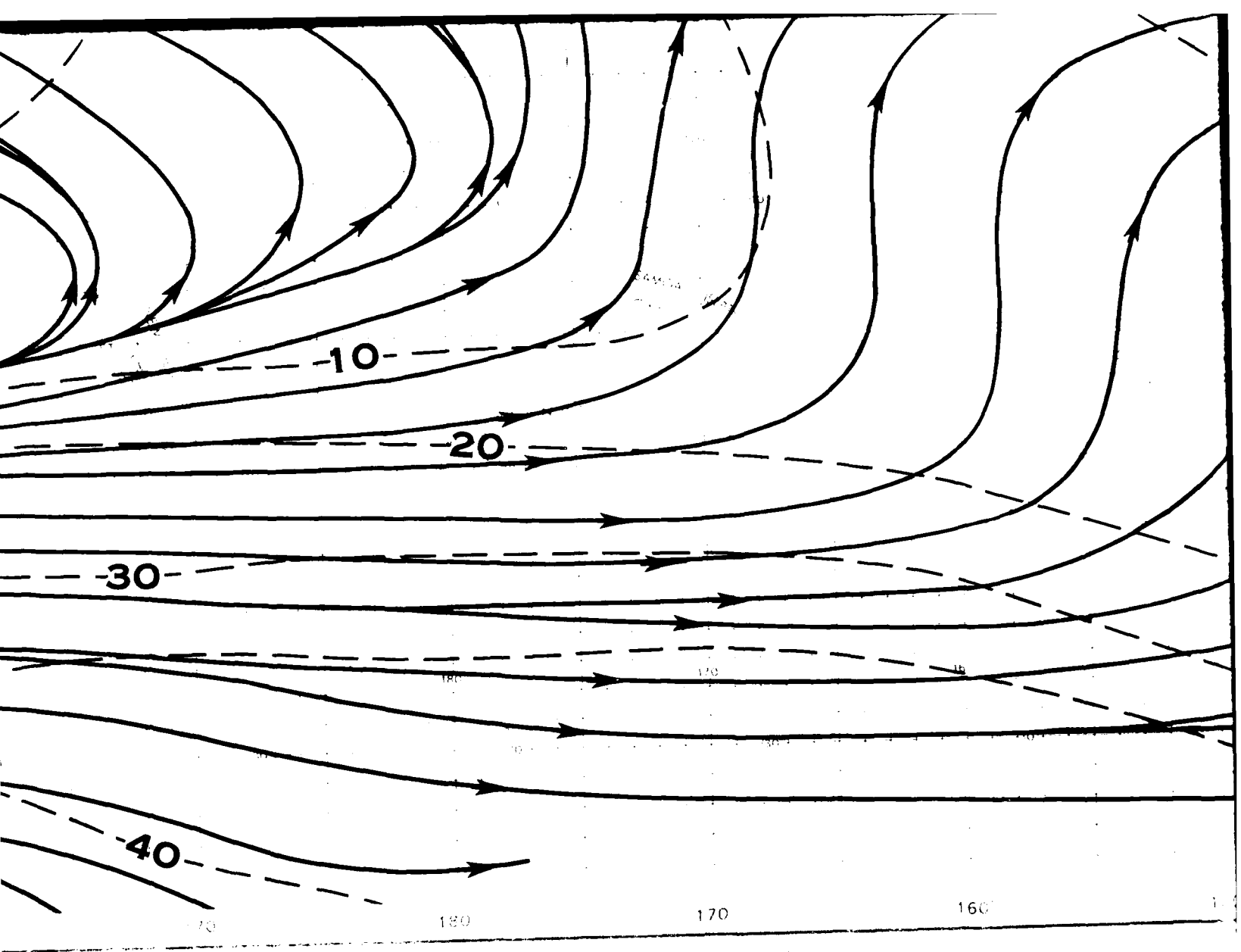




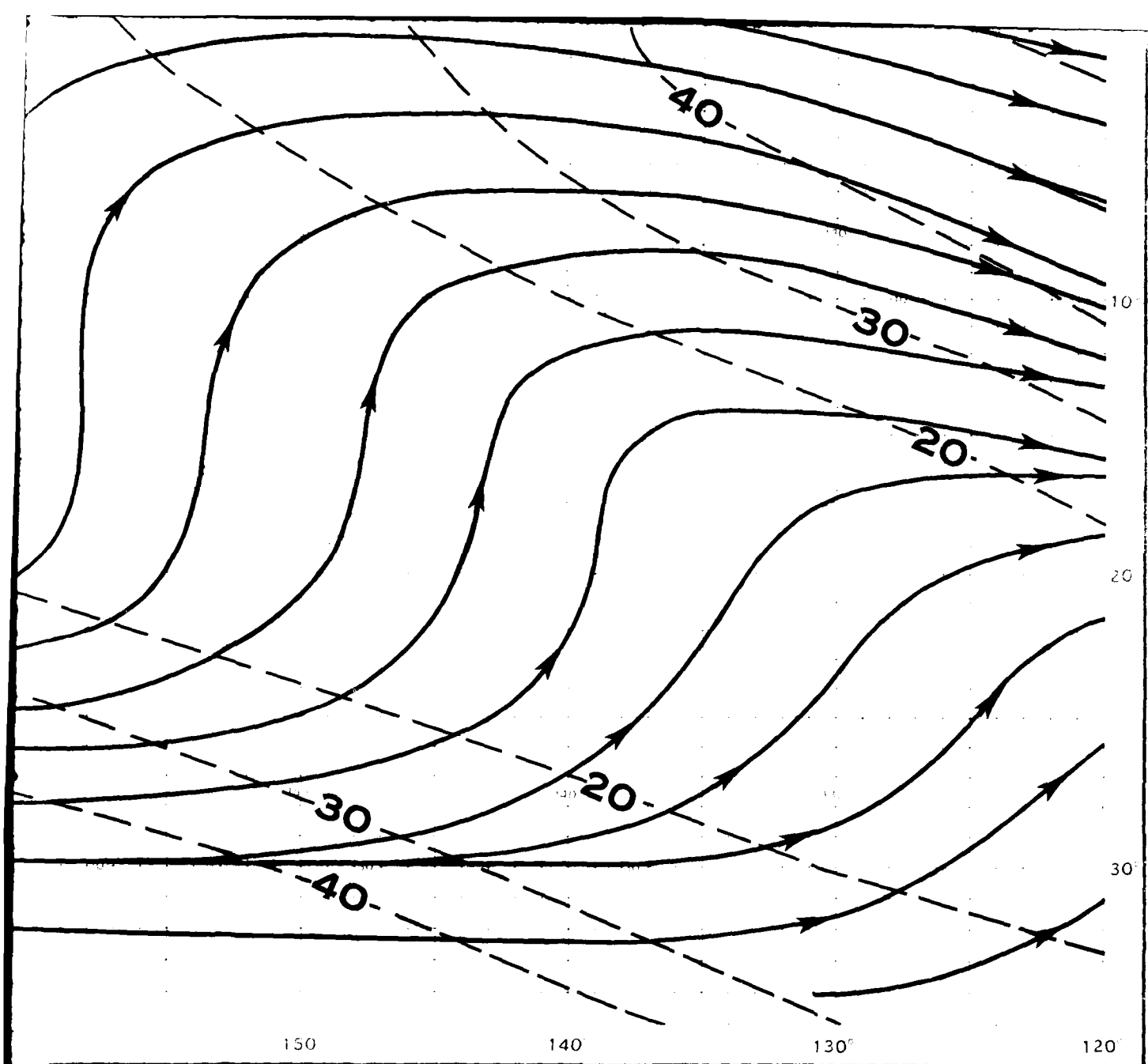
ANALYZED MEAN DATA  
 PROVIDED BY JAMES J. GUTHRIE  
 UNIVERSITY OF HAWAII





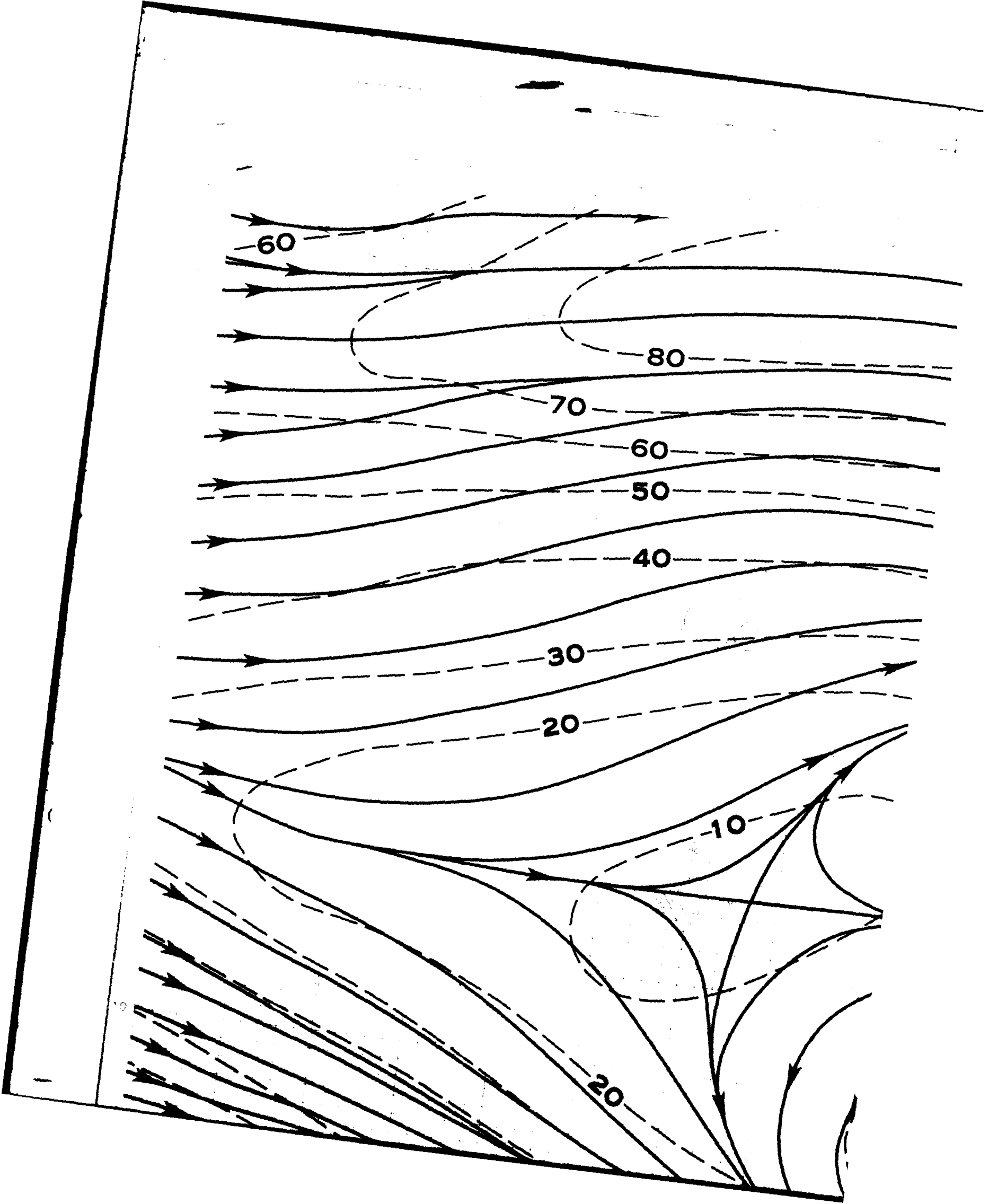


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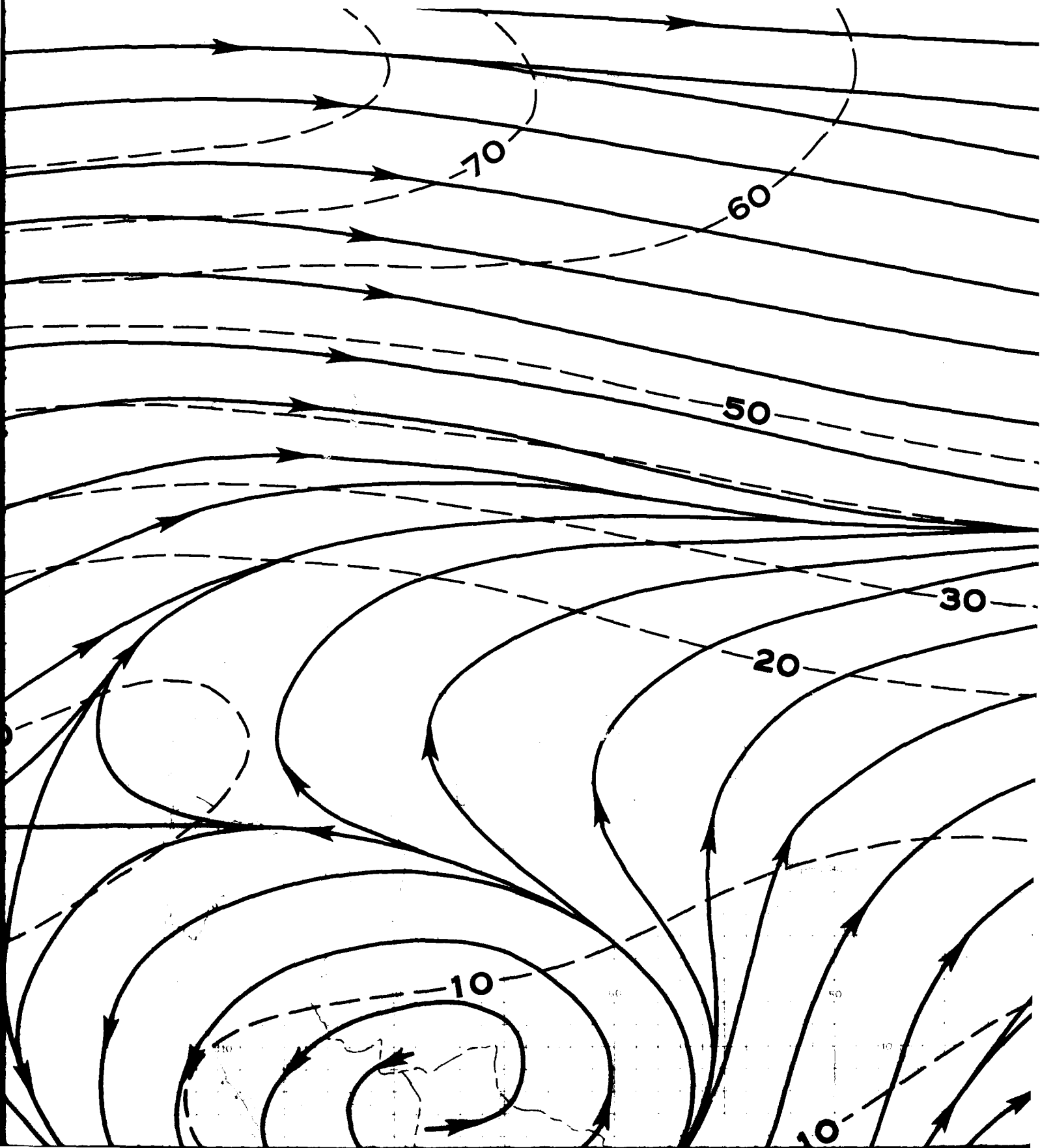


MULW-202E





# MEAN UPPER LEVEL WIND



AD-A141 484

MEAN UPPER TROPOSPHERIC FLOW OVER THE GLOBAL TROPICS  
VOLUME 2(U) AIR WEATHER SERVICE SCOTT AFB IL  
J C SADLER ET AL. JAN 84 AWS/TR-83/002-VOL-2

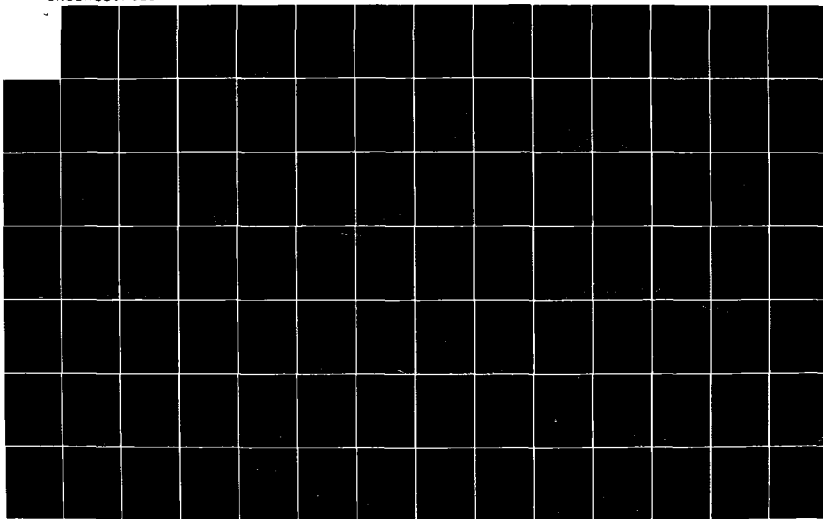
4/6

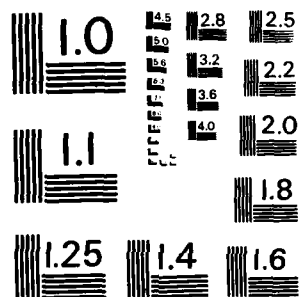
UNCLASSIFIED

SBI-AD-E850 890

F/G 4/2

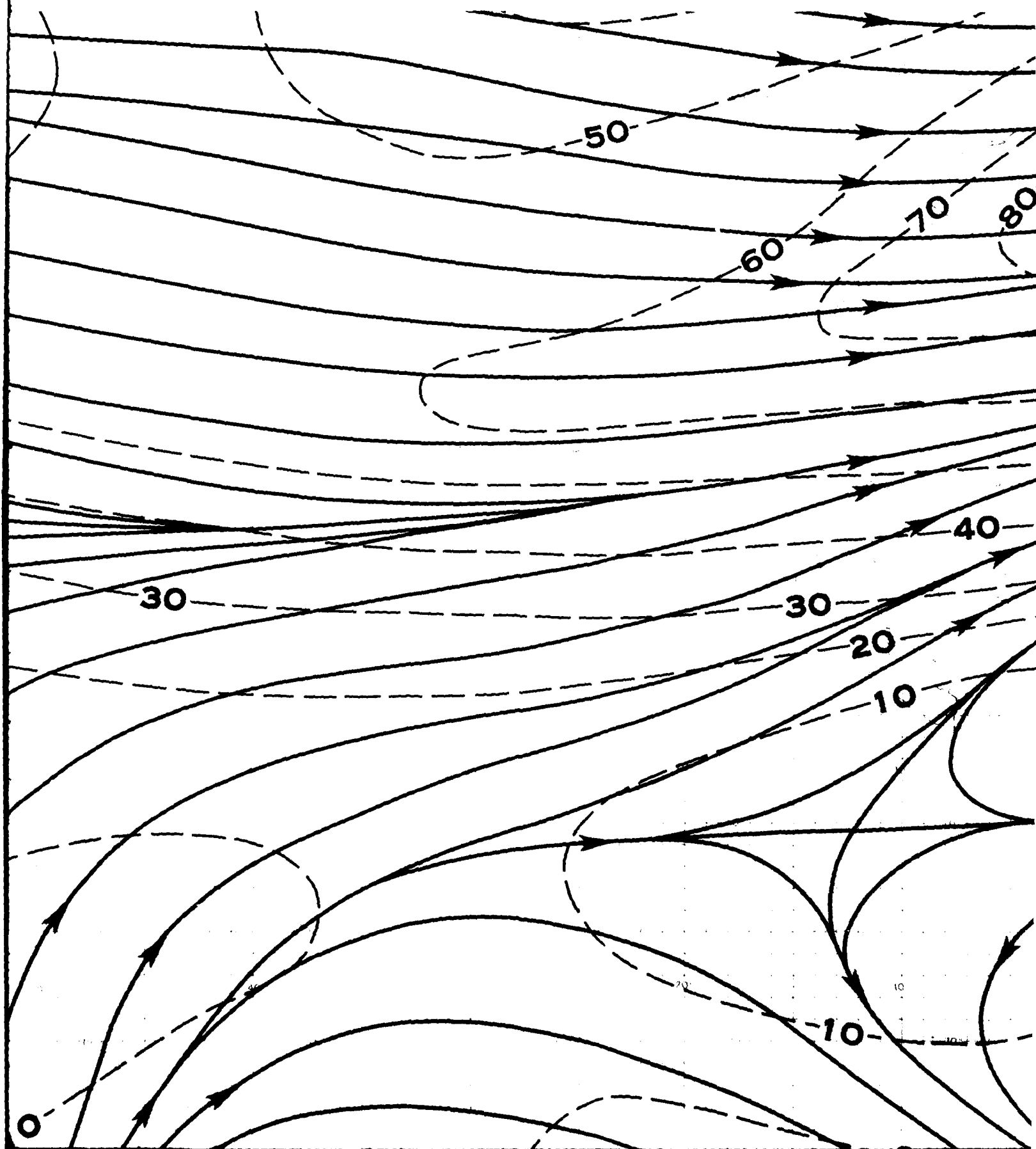
NL





MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

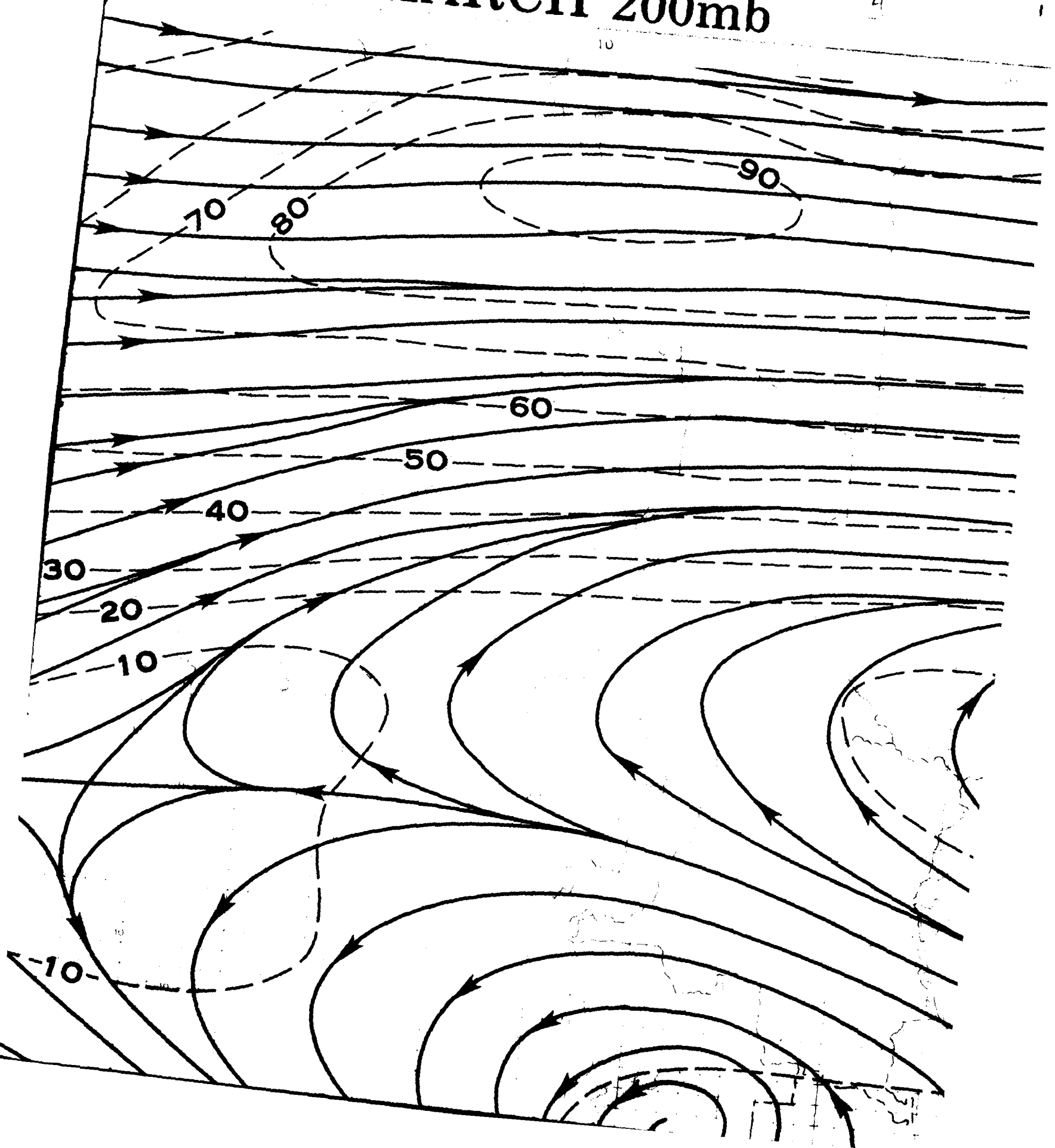
# EL WINDS over GLOBAL TROPICS

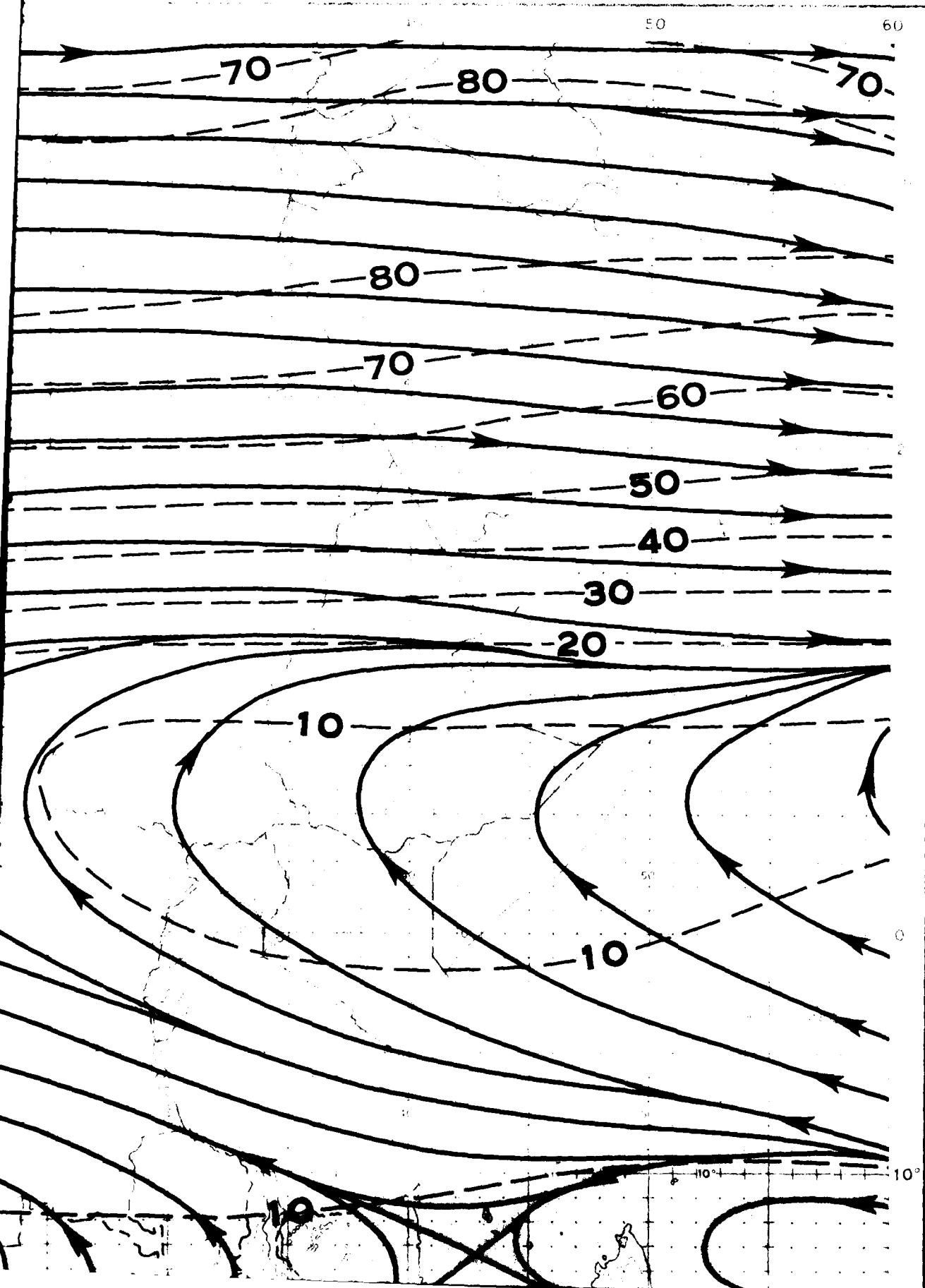


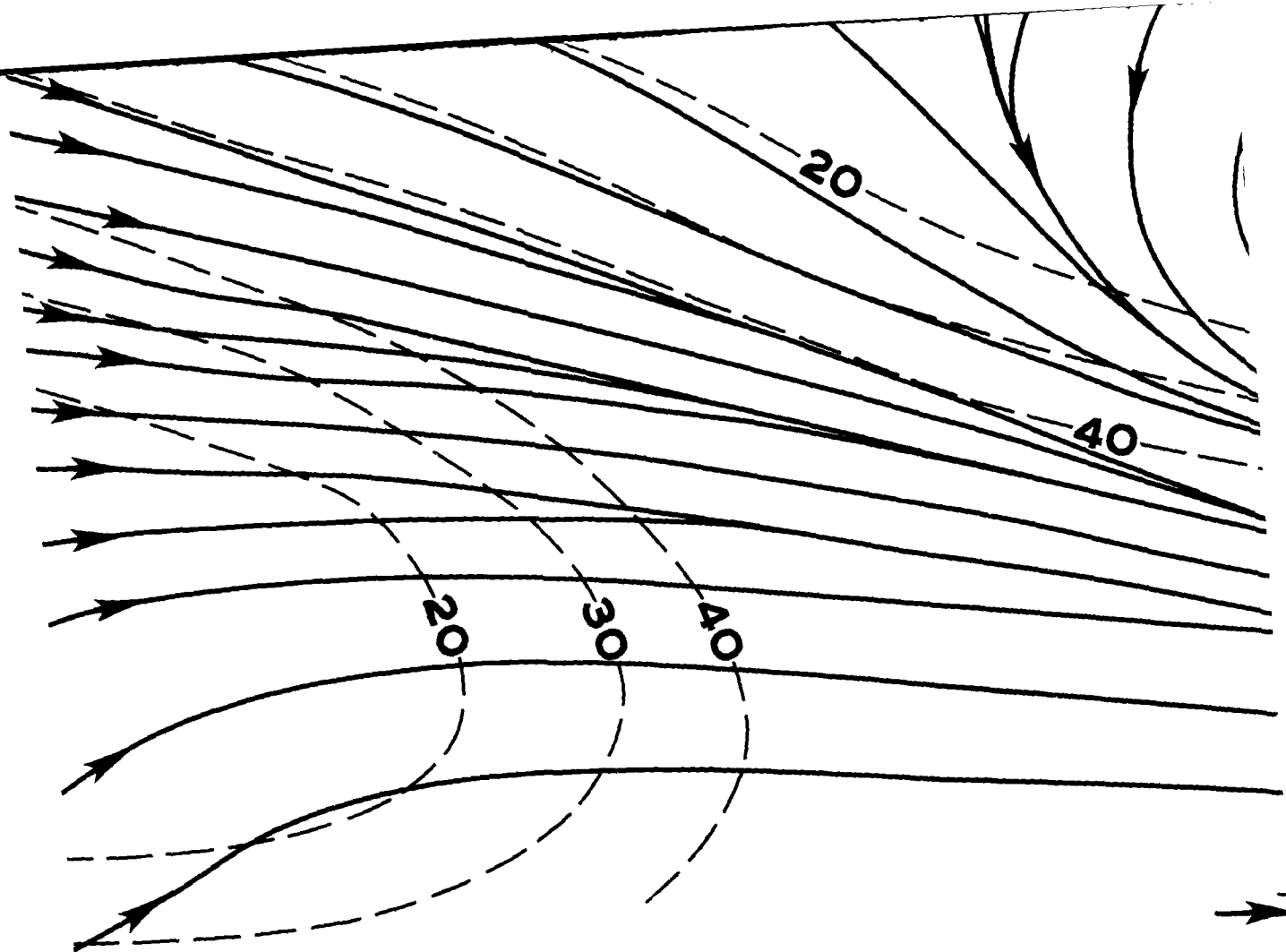
# TROPICS - MARCH 200mb

4

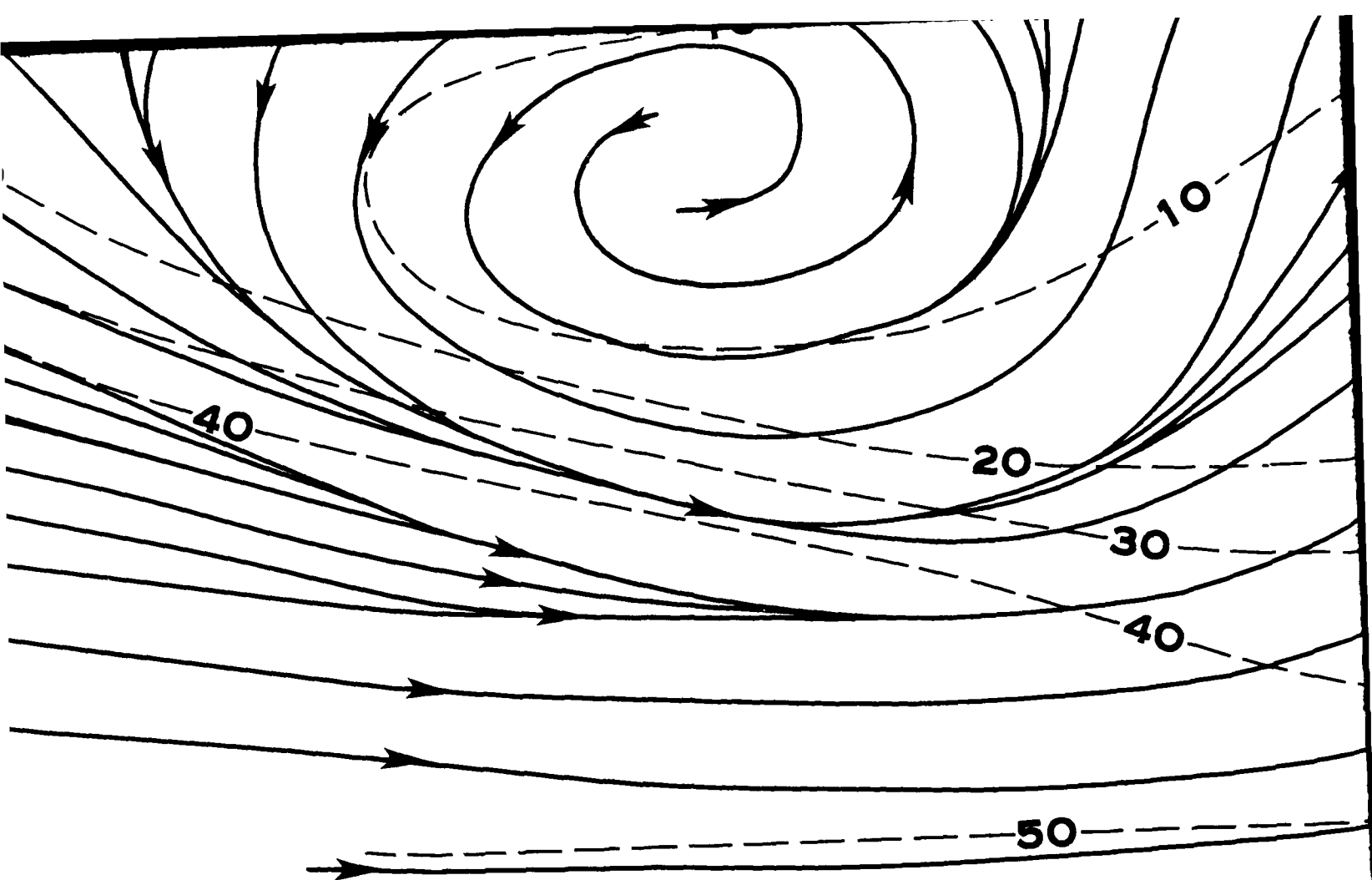
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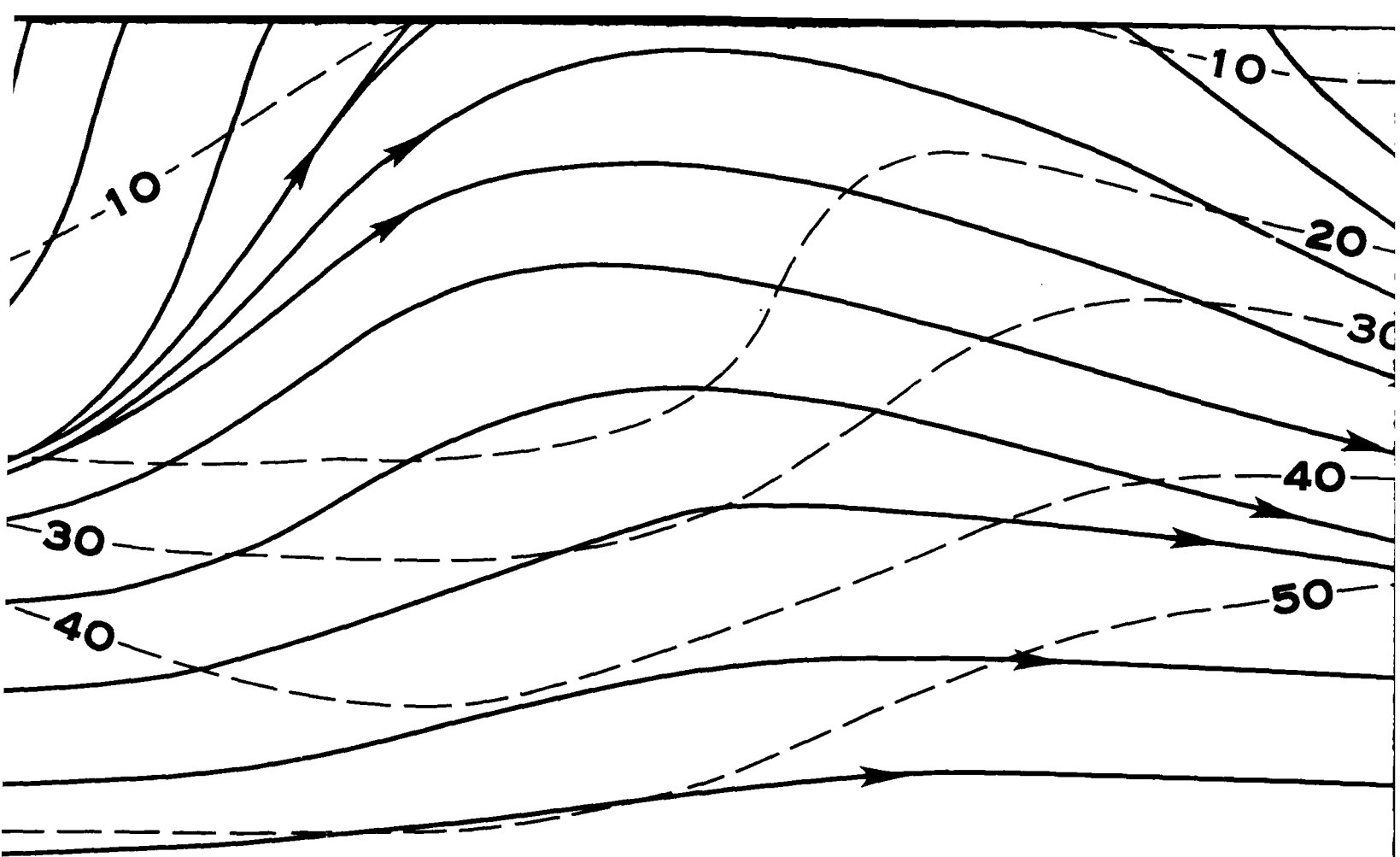


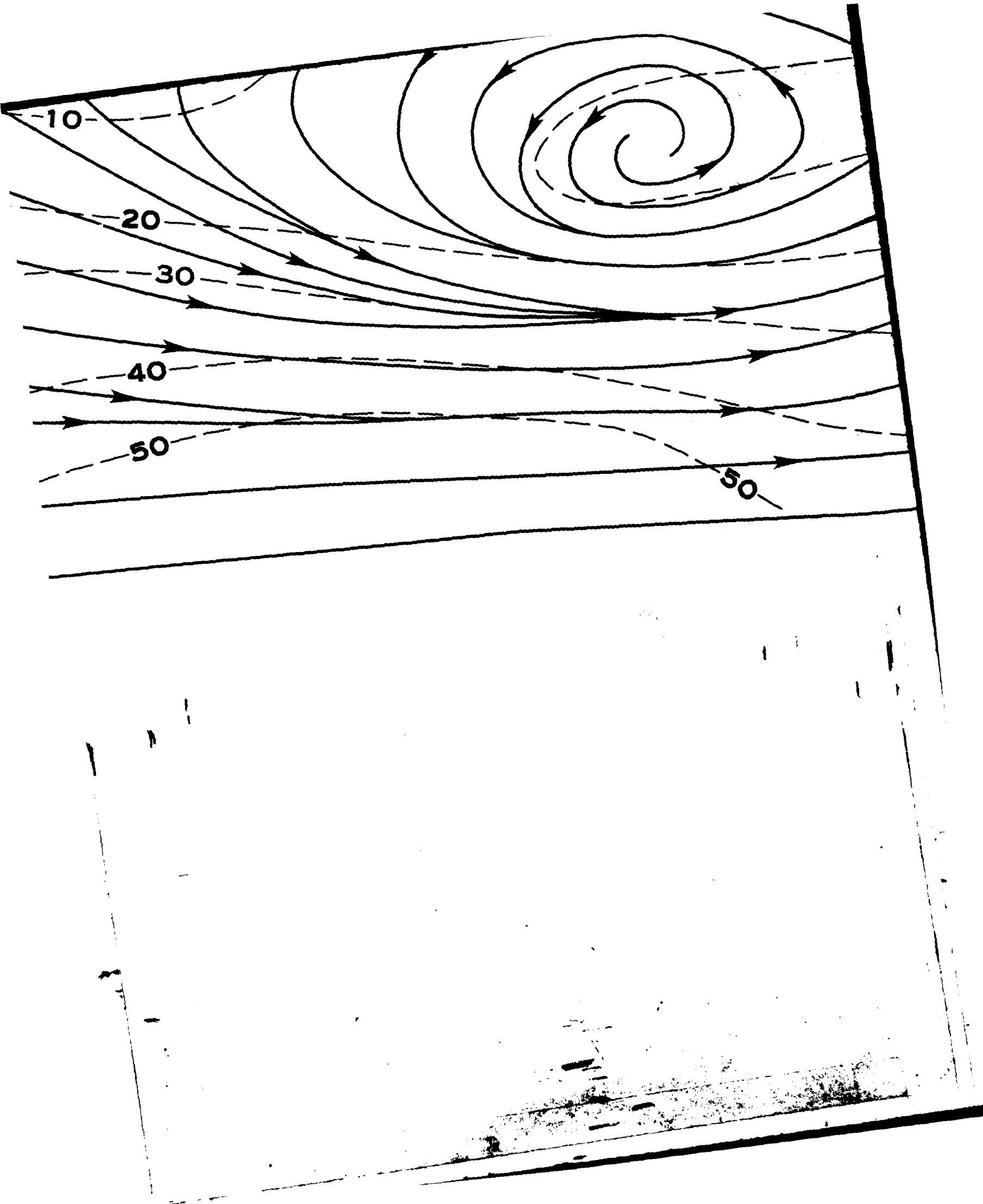


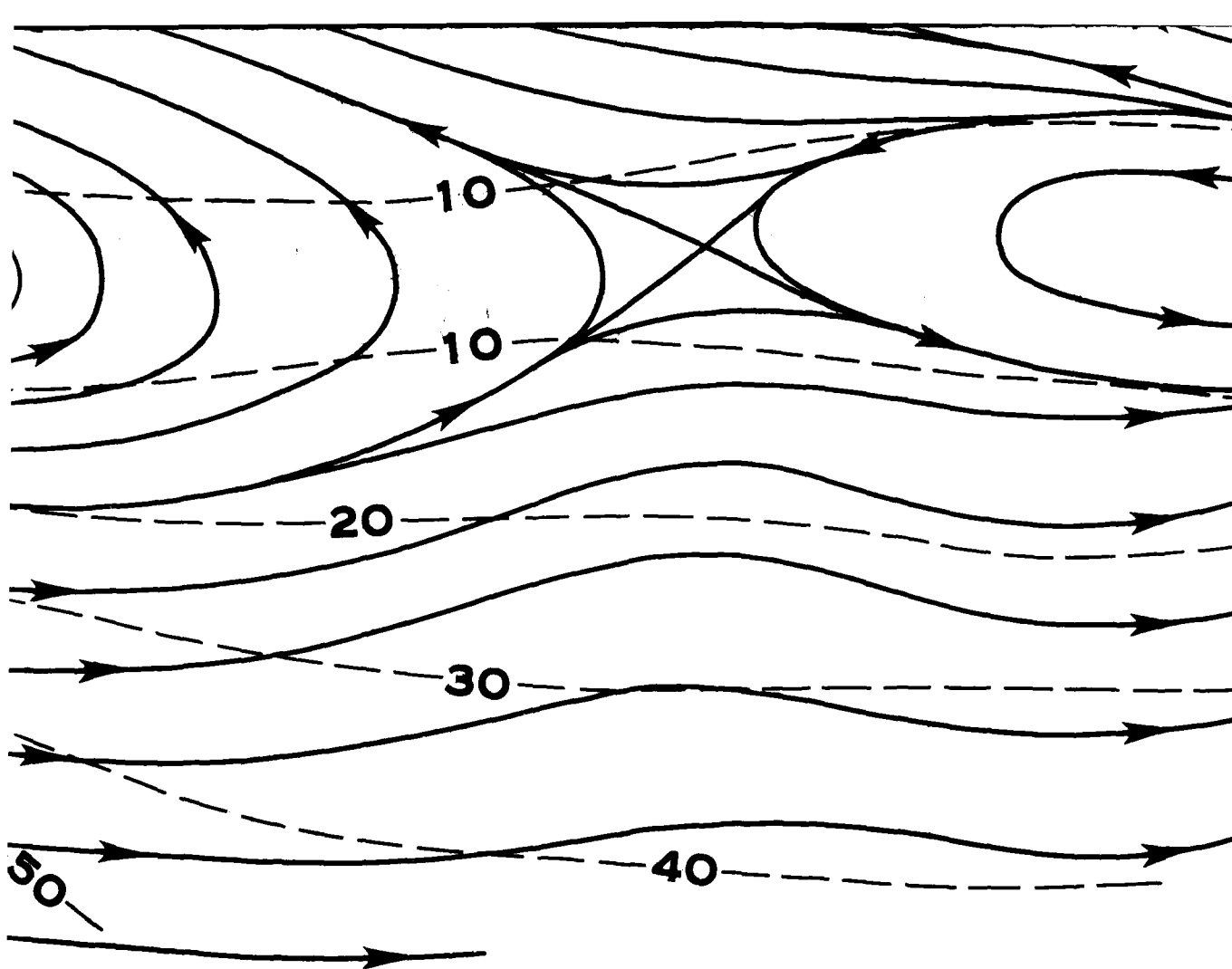




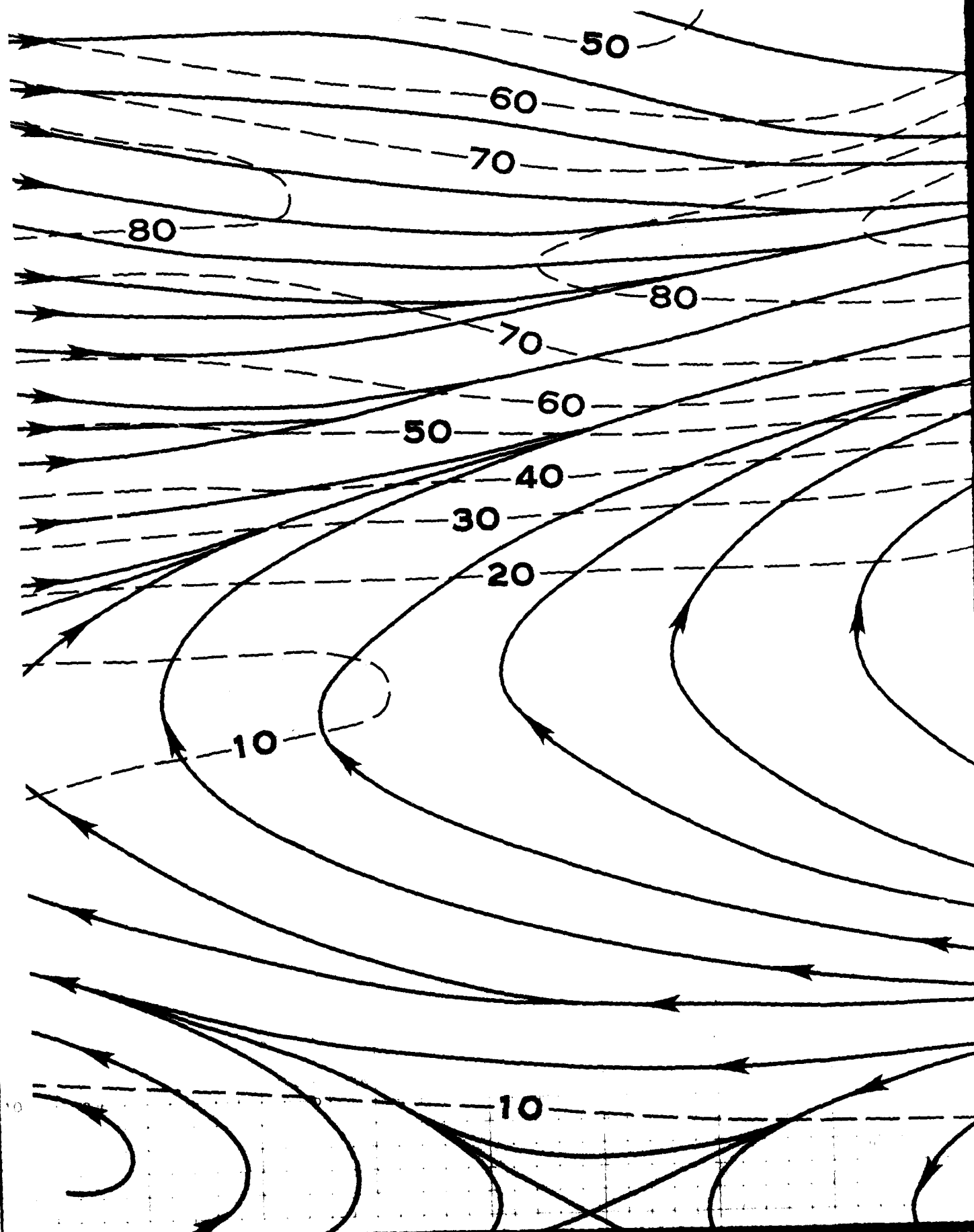
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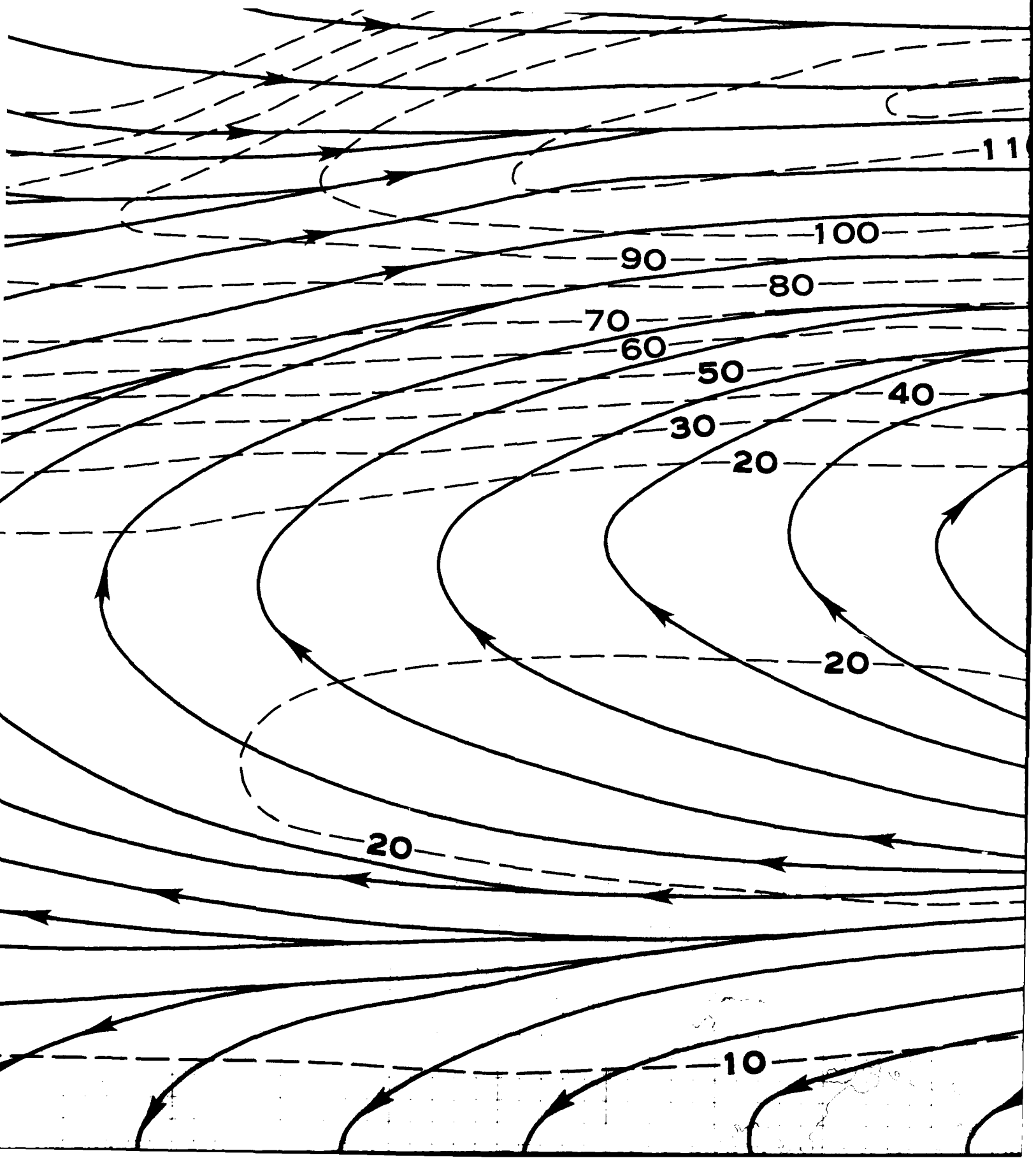




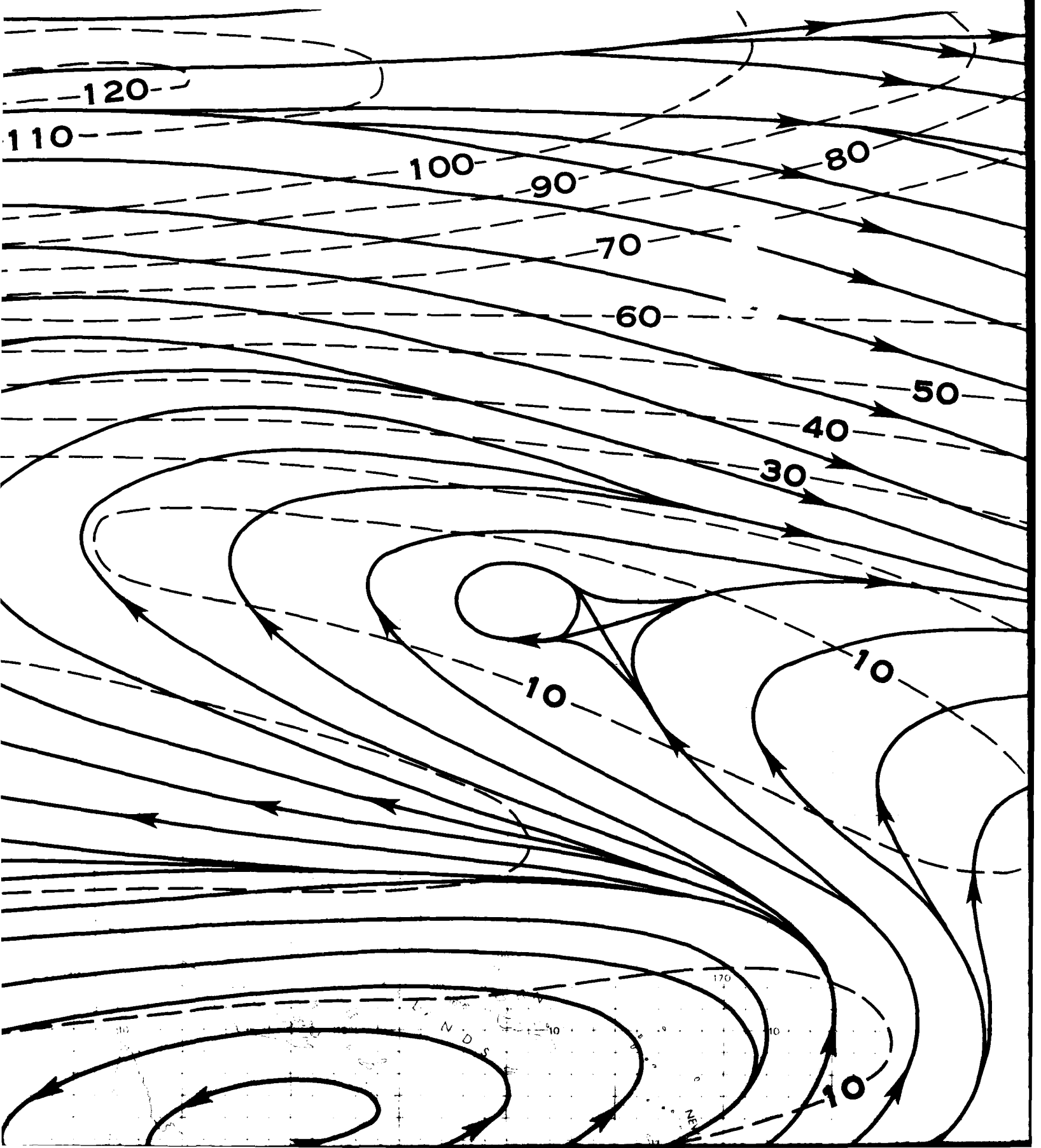
MULW-203W



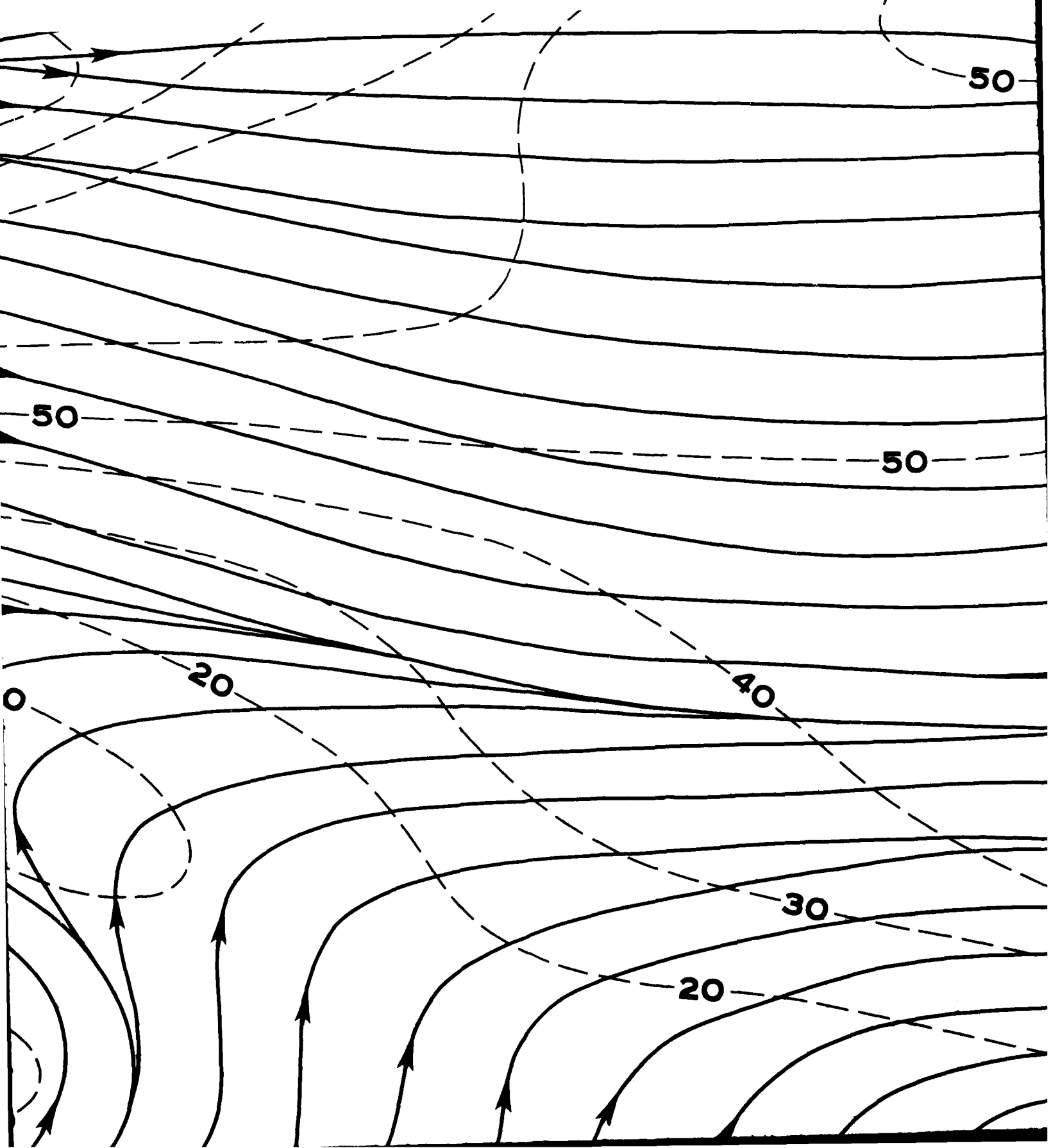
# MEAN UPPER LEVEL WIN



# NDS over GLOBAL TROPICS - MAR

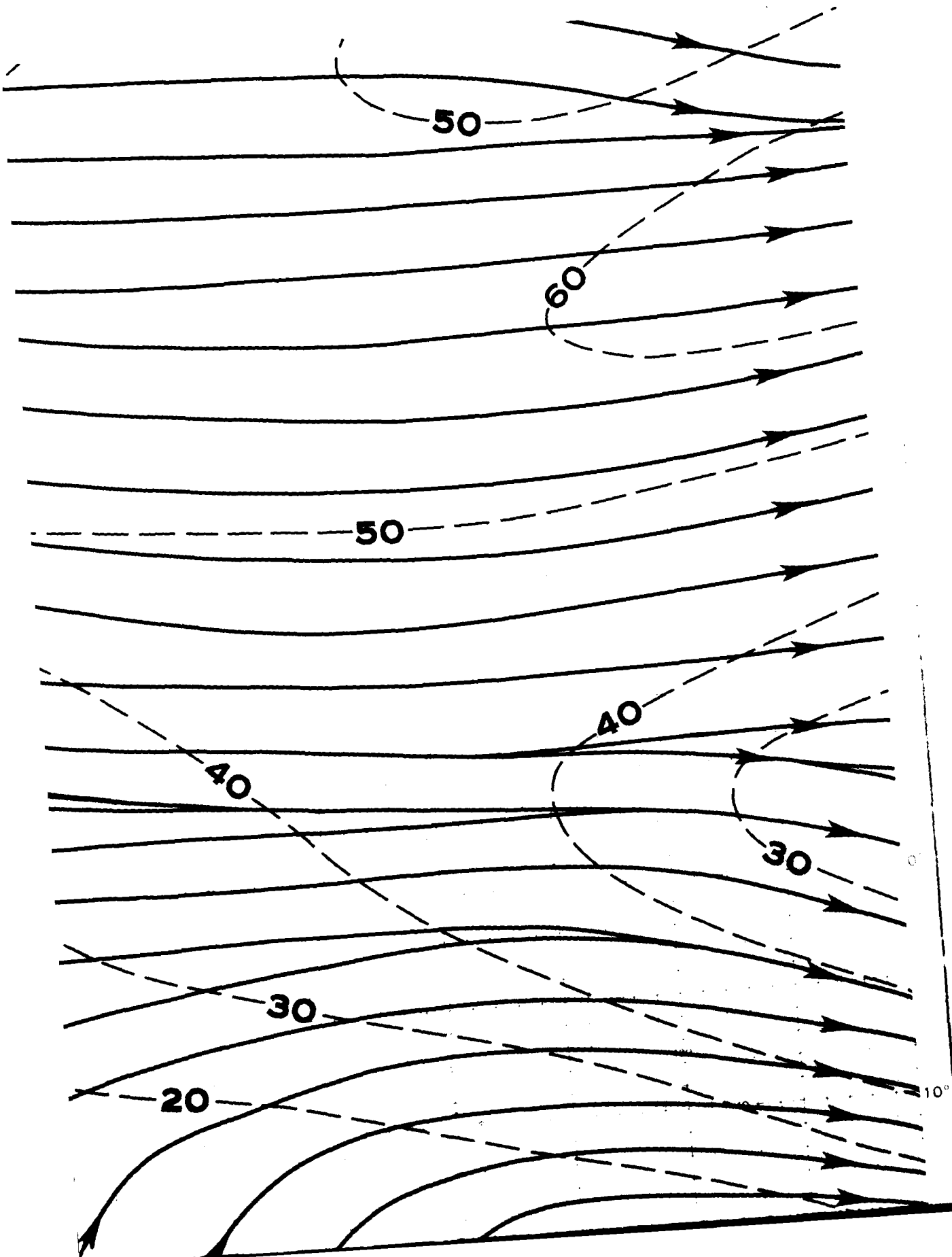


# MARCH 200mb

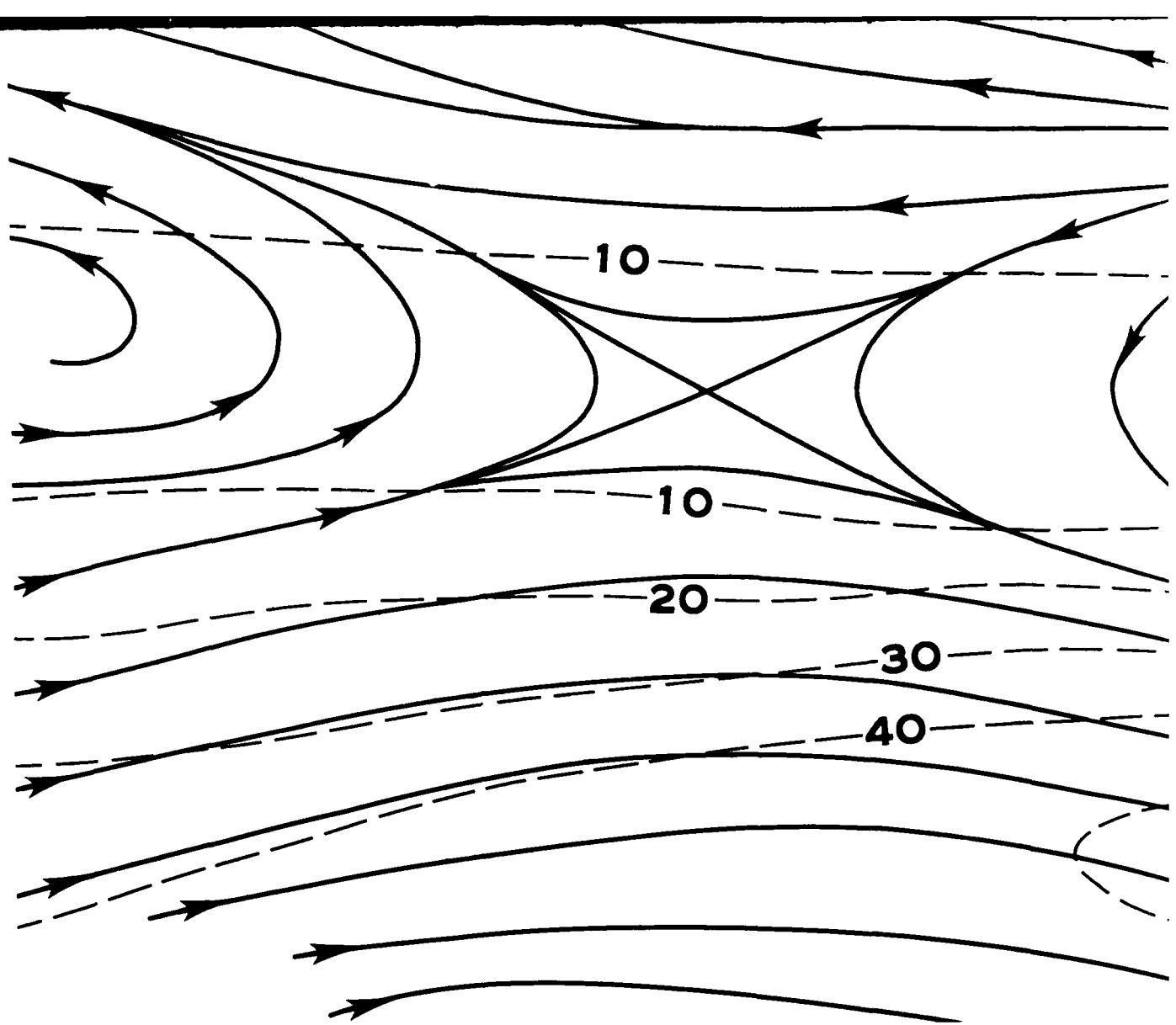


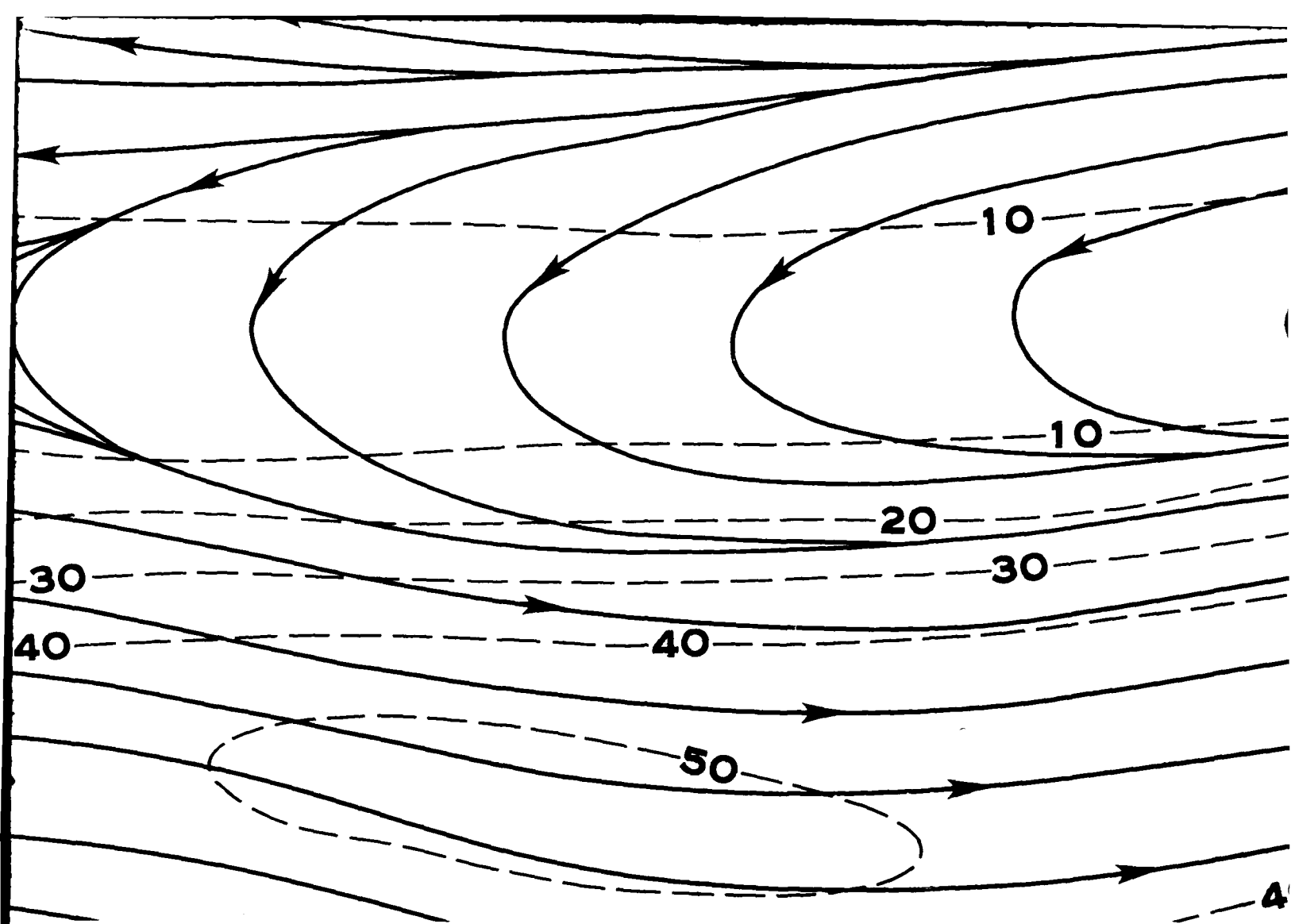


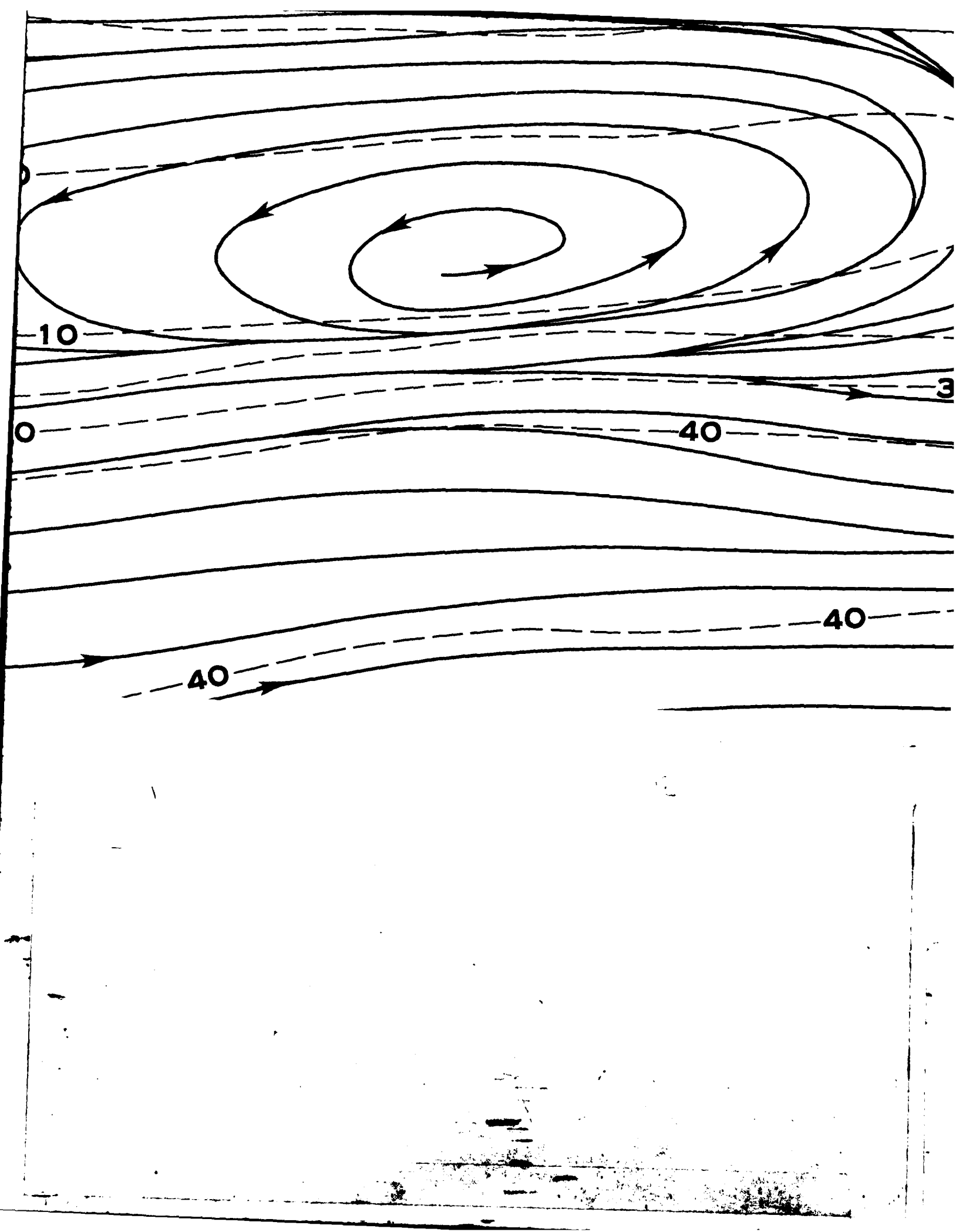
3

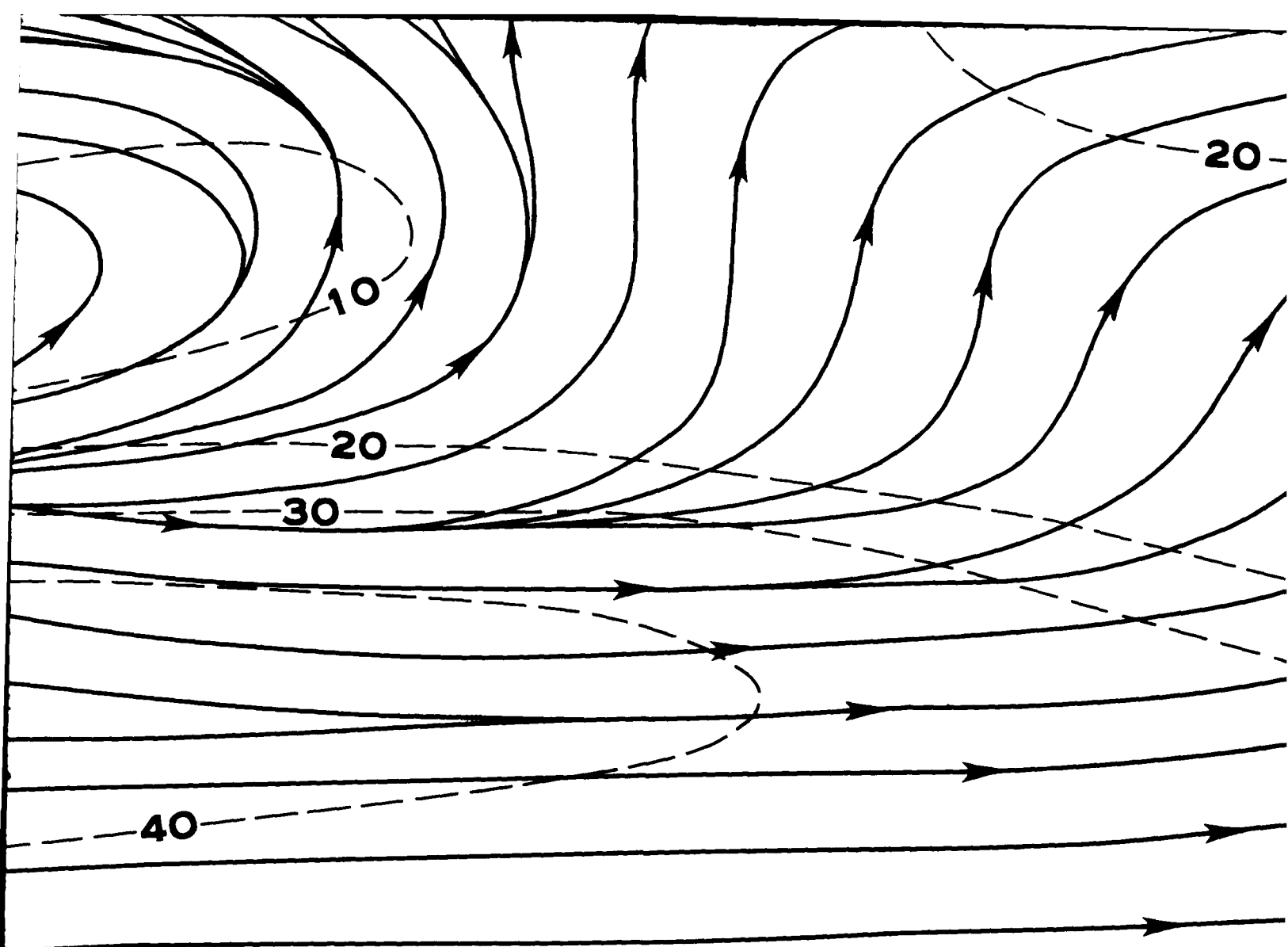


10°

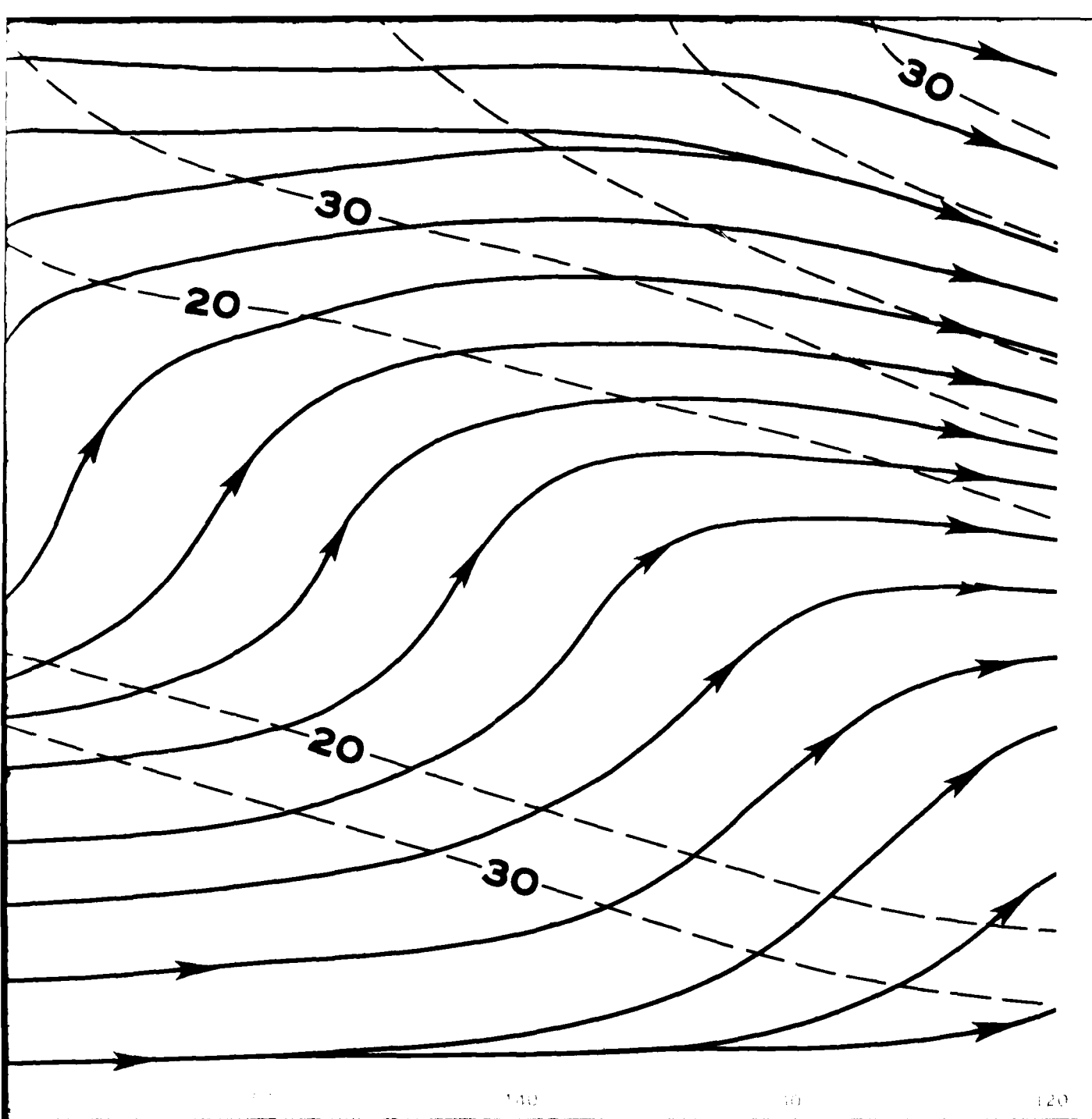






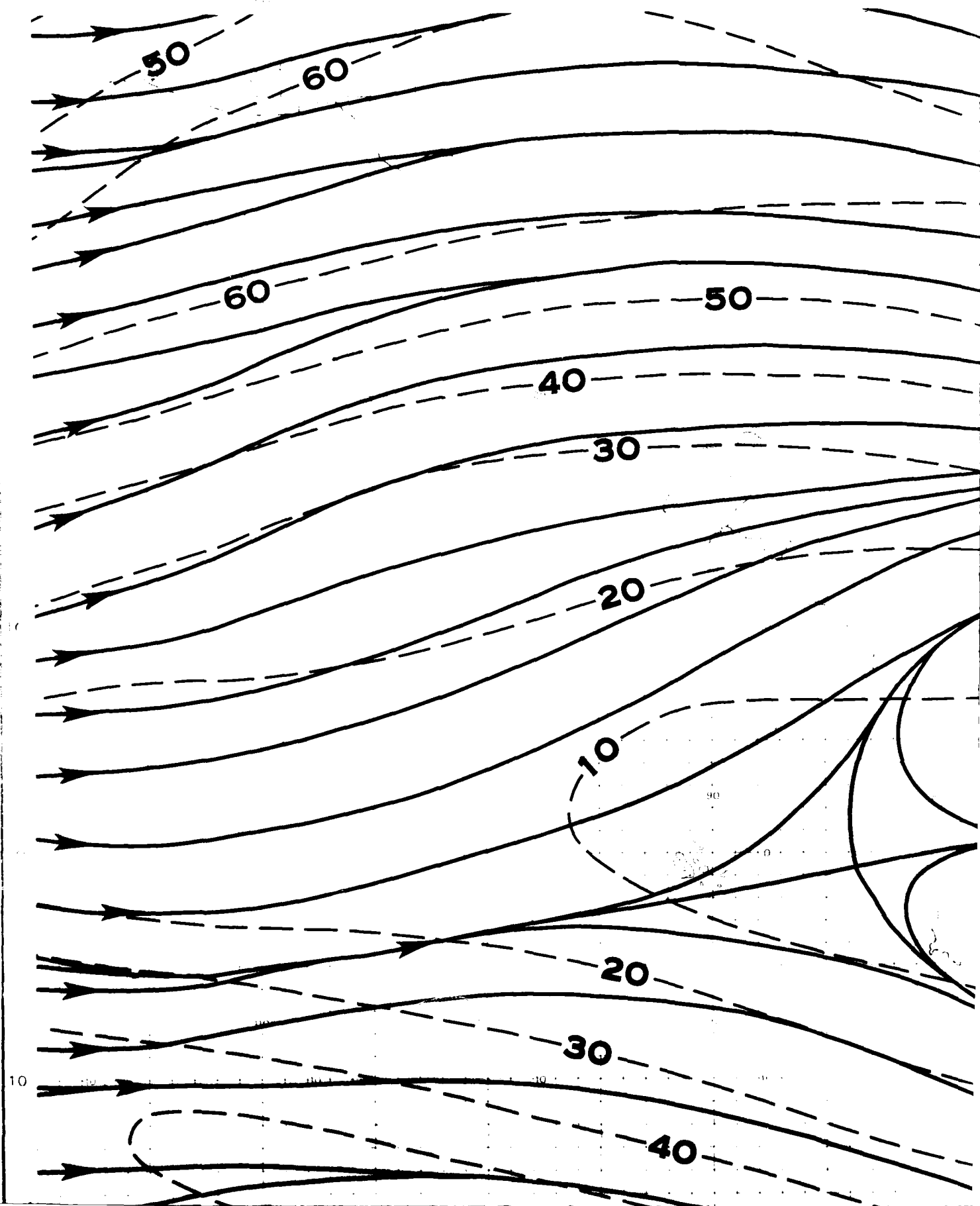


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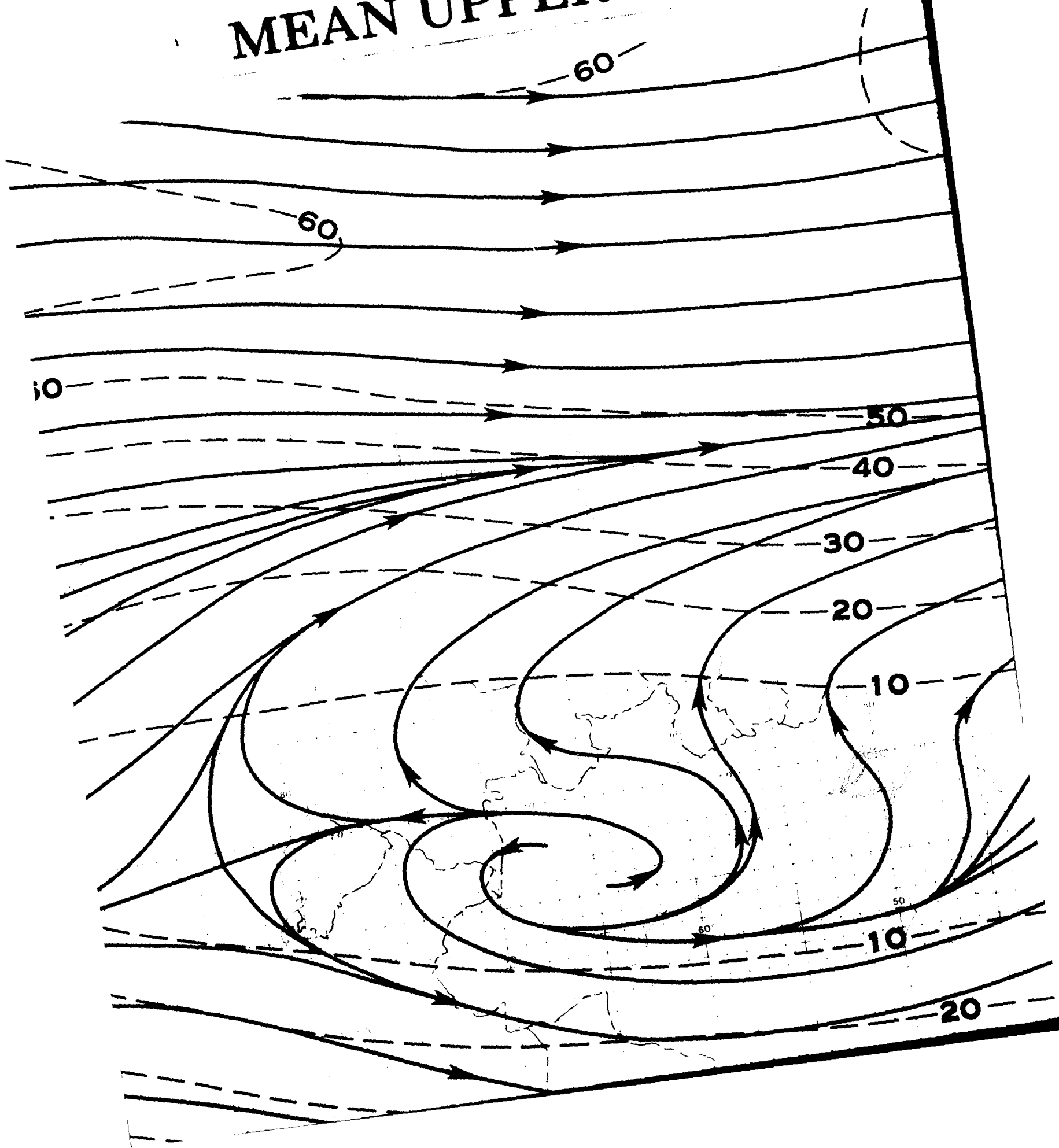


MULW-203E

10

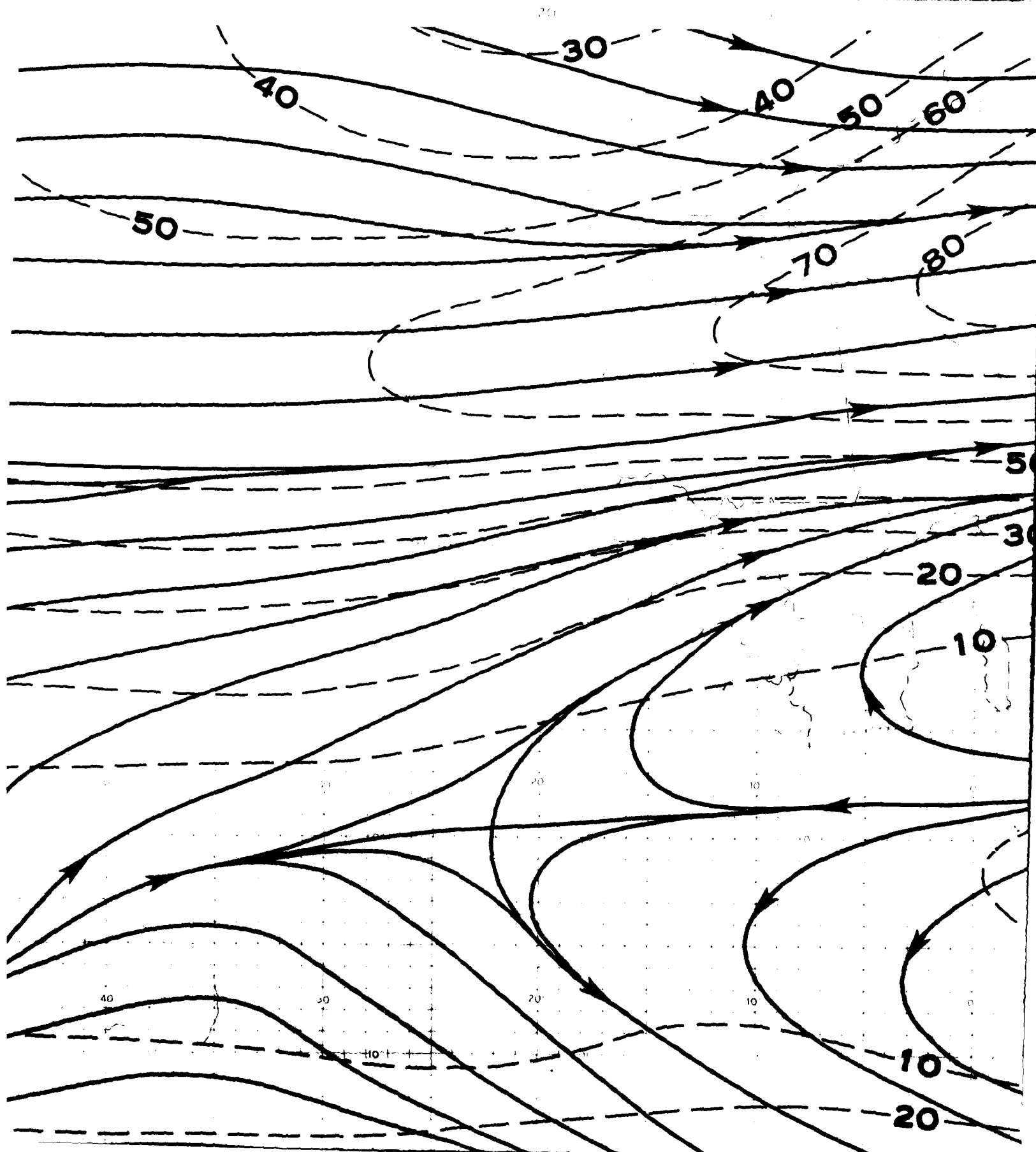


# MEAN UPPER LEVEL WIND

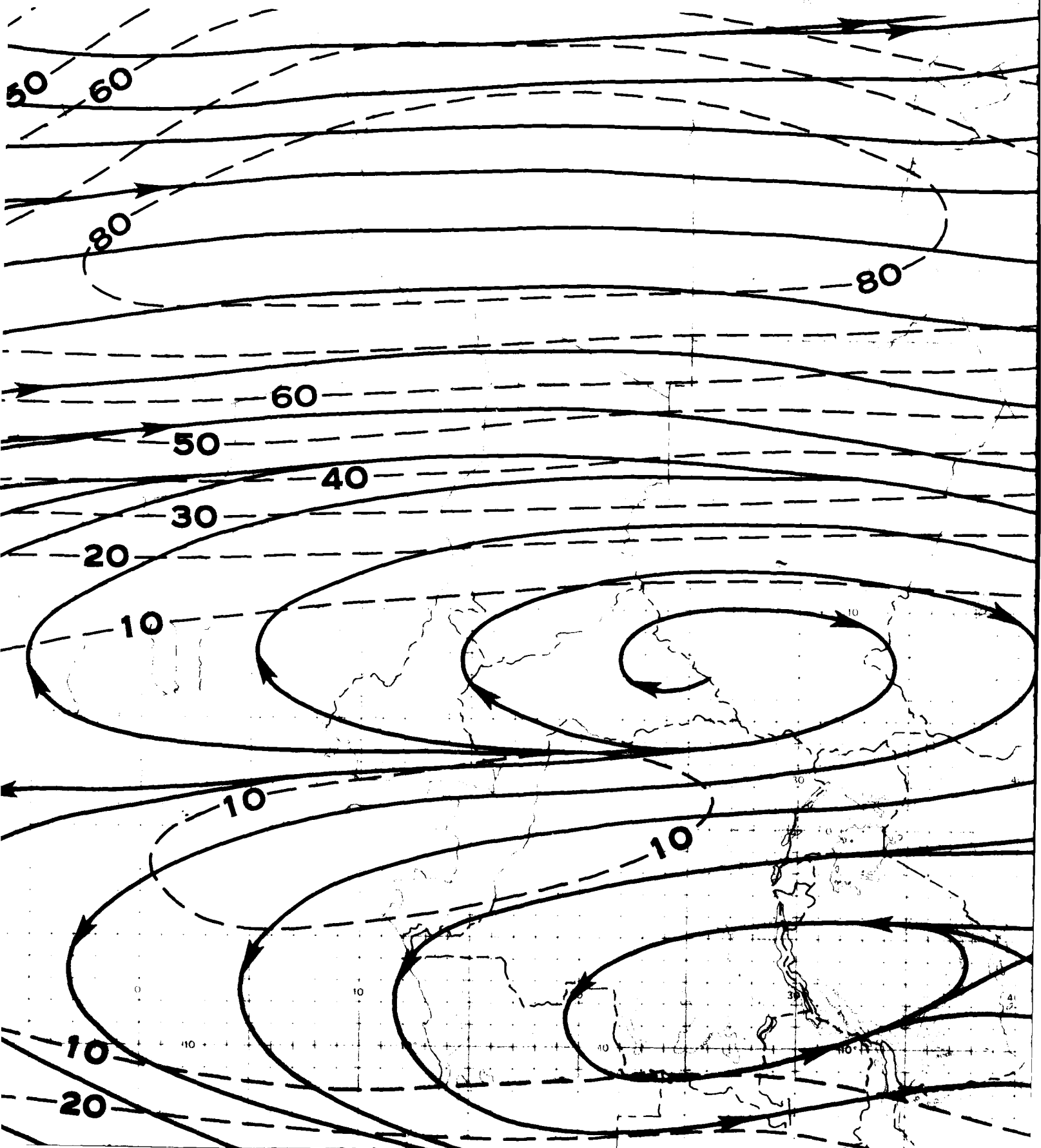


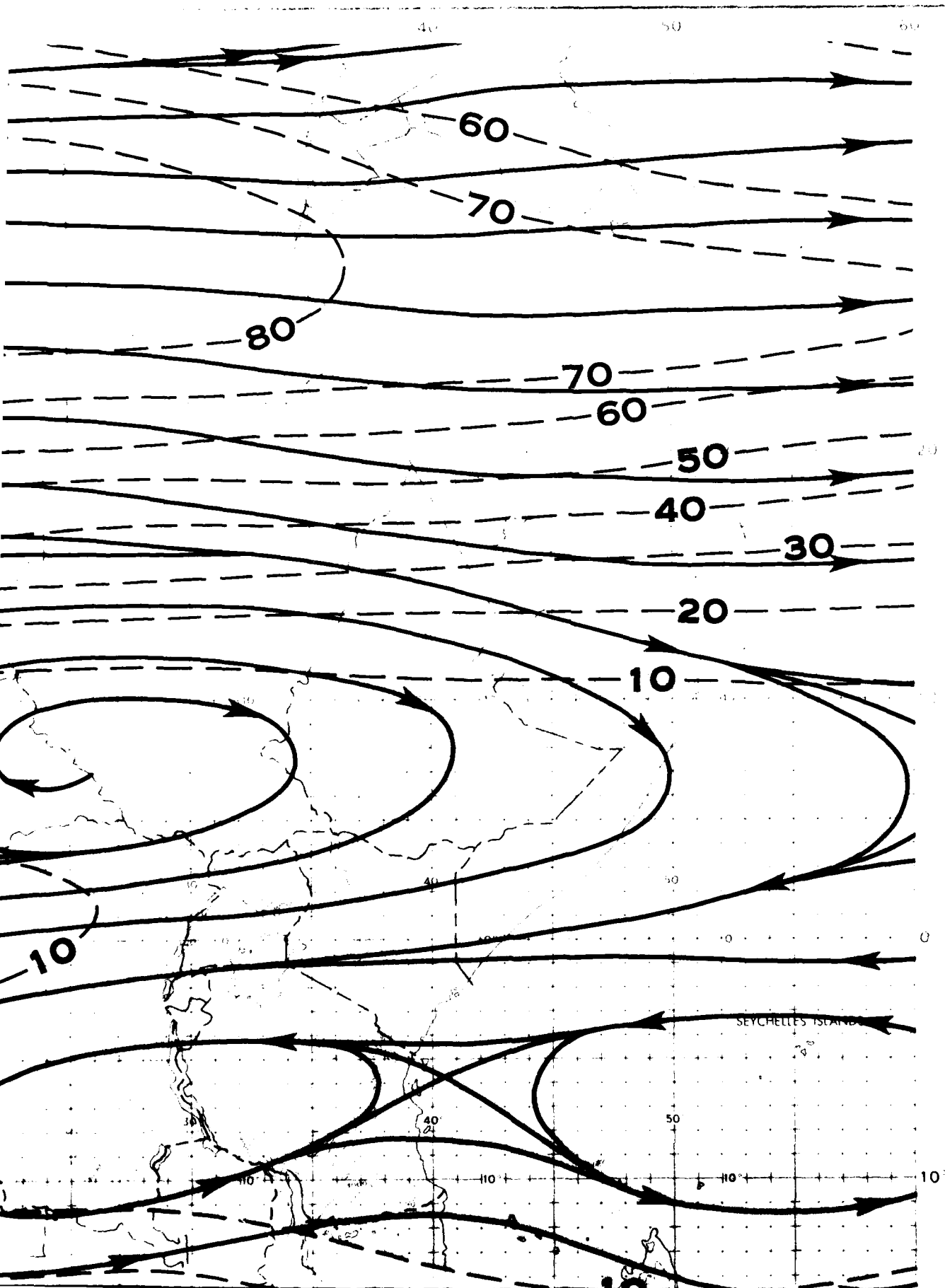


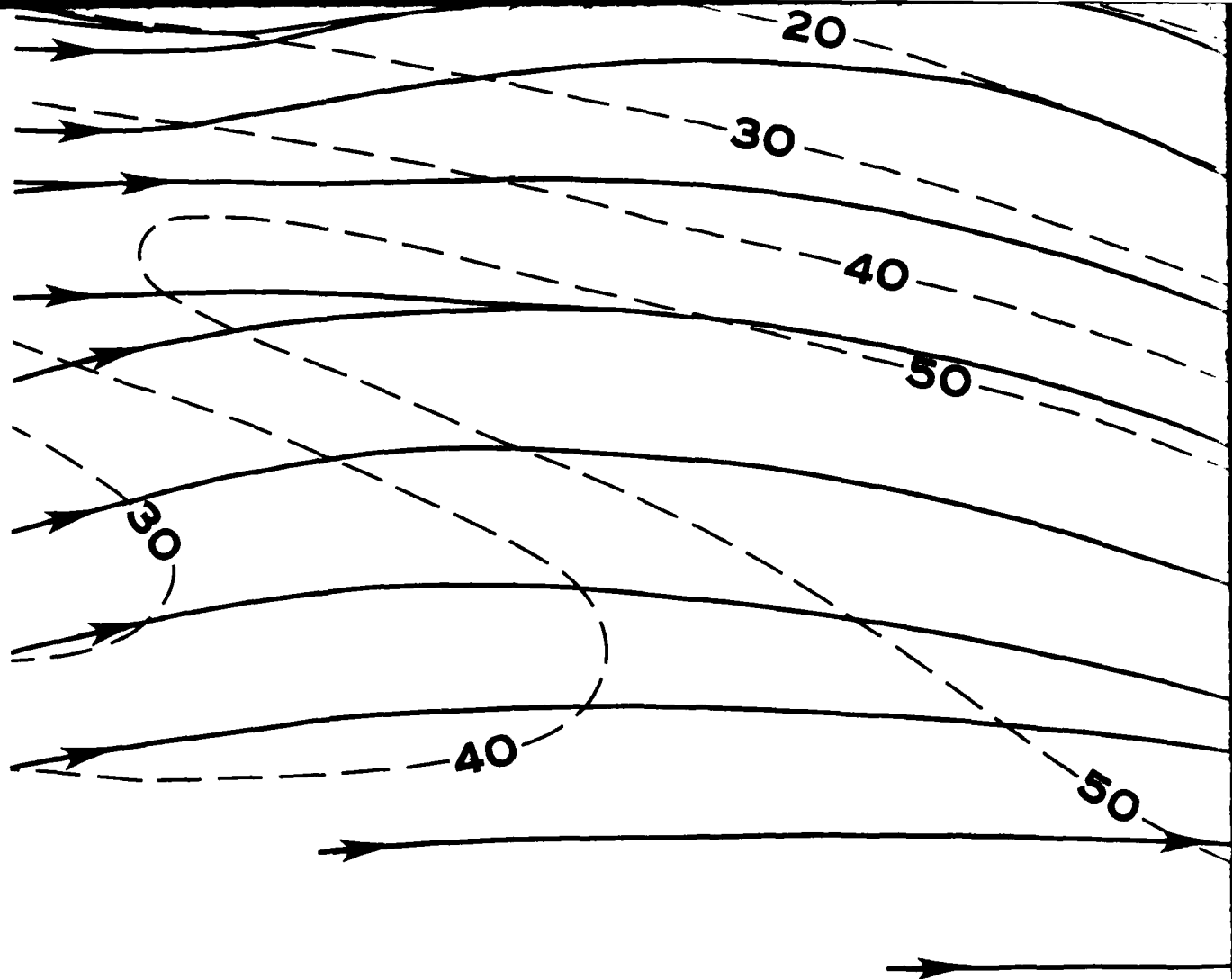
# WINDS over GLOBAL TROPICS - AP



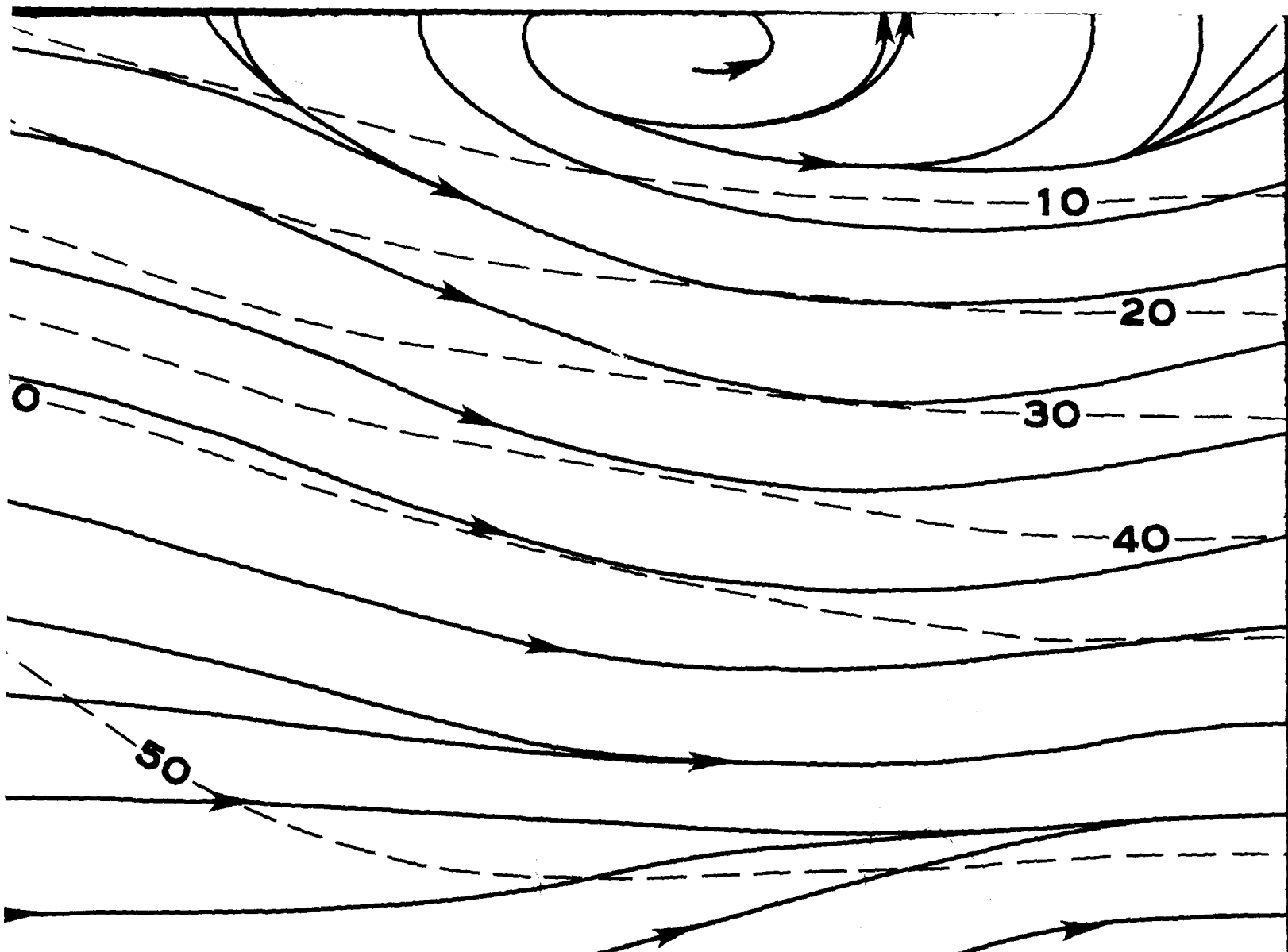
CS - APRIL 200mb



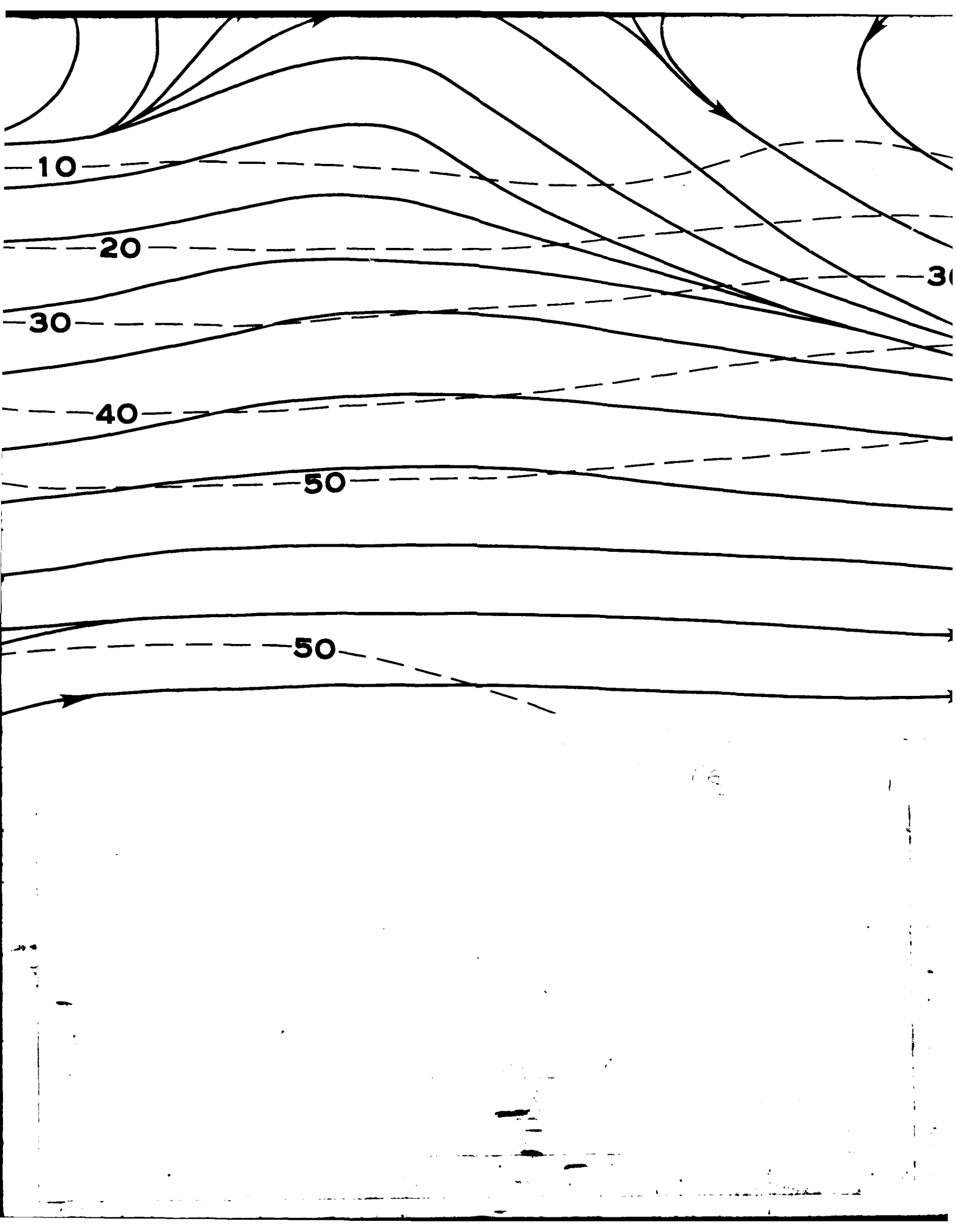


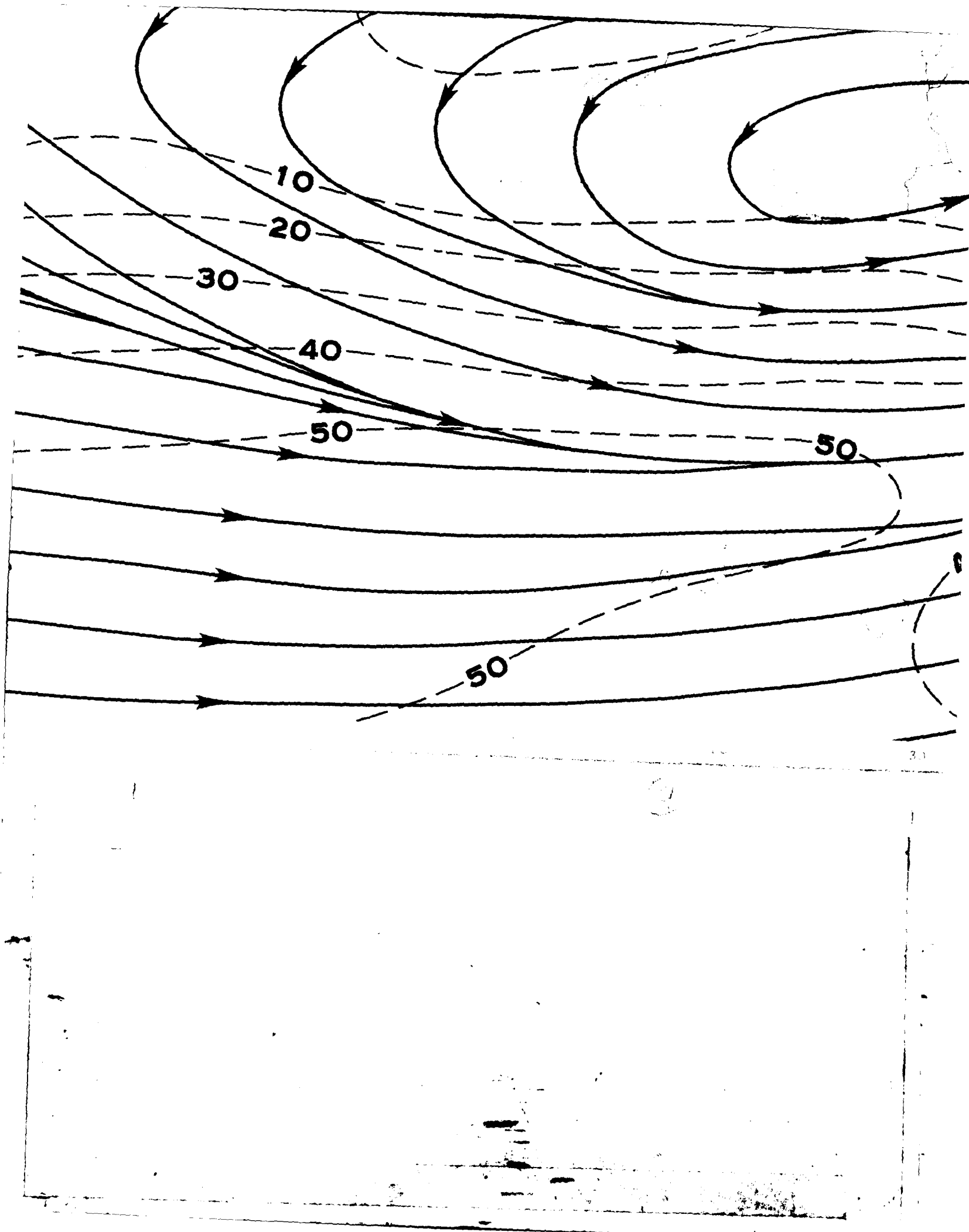


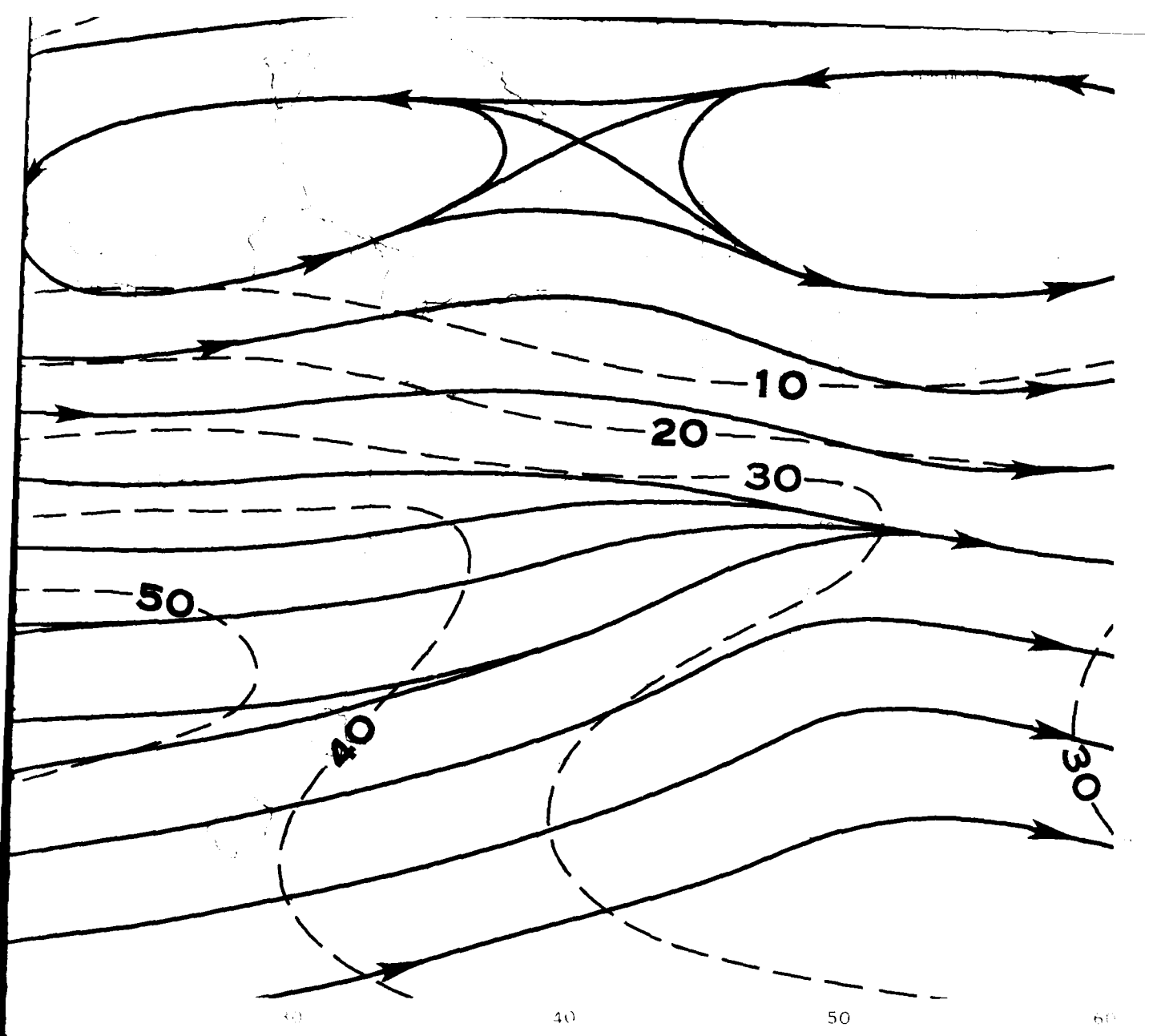
76



1 (7)



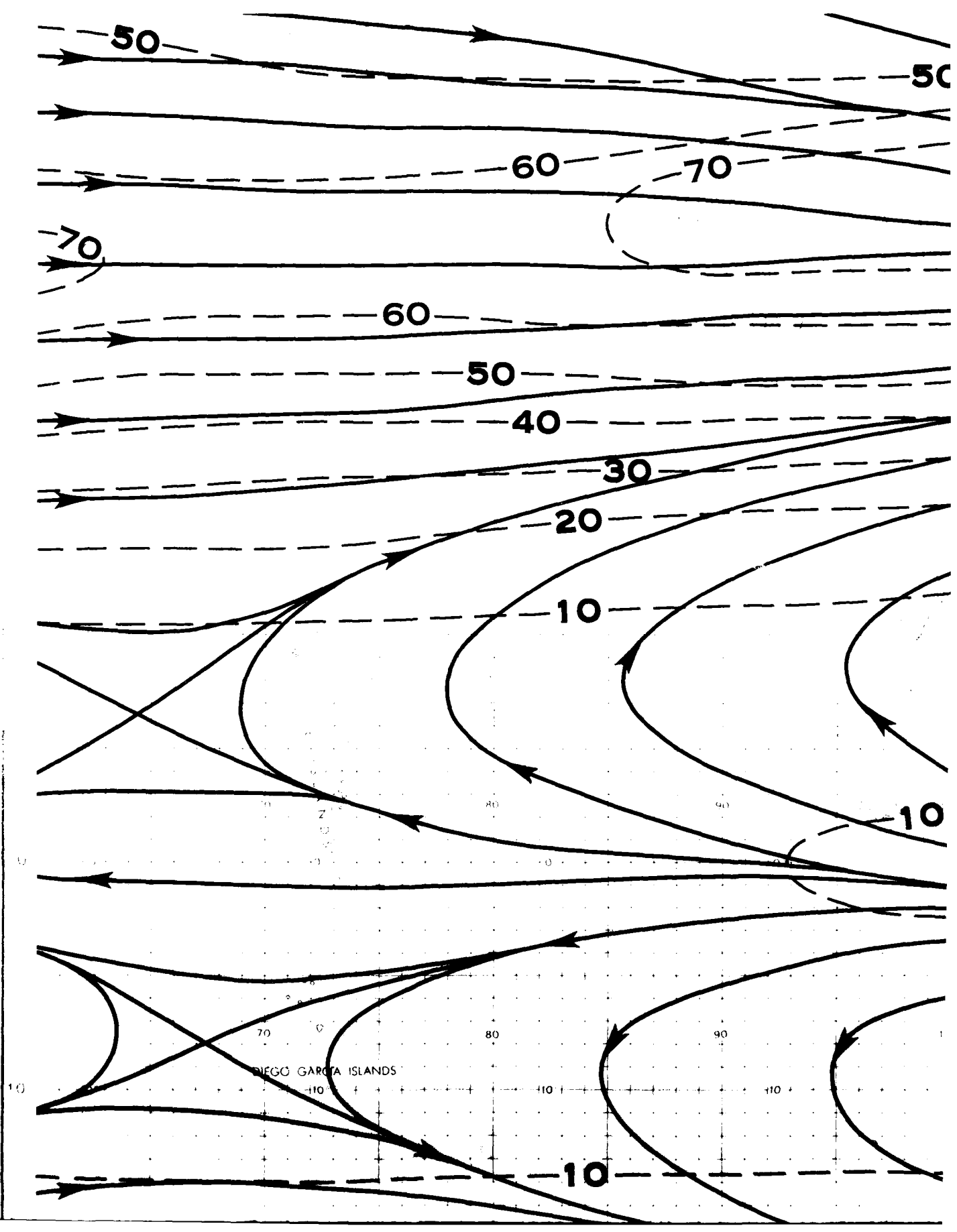




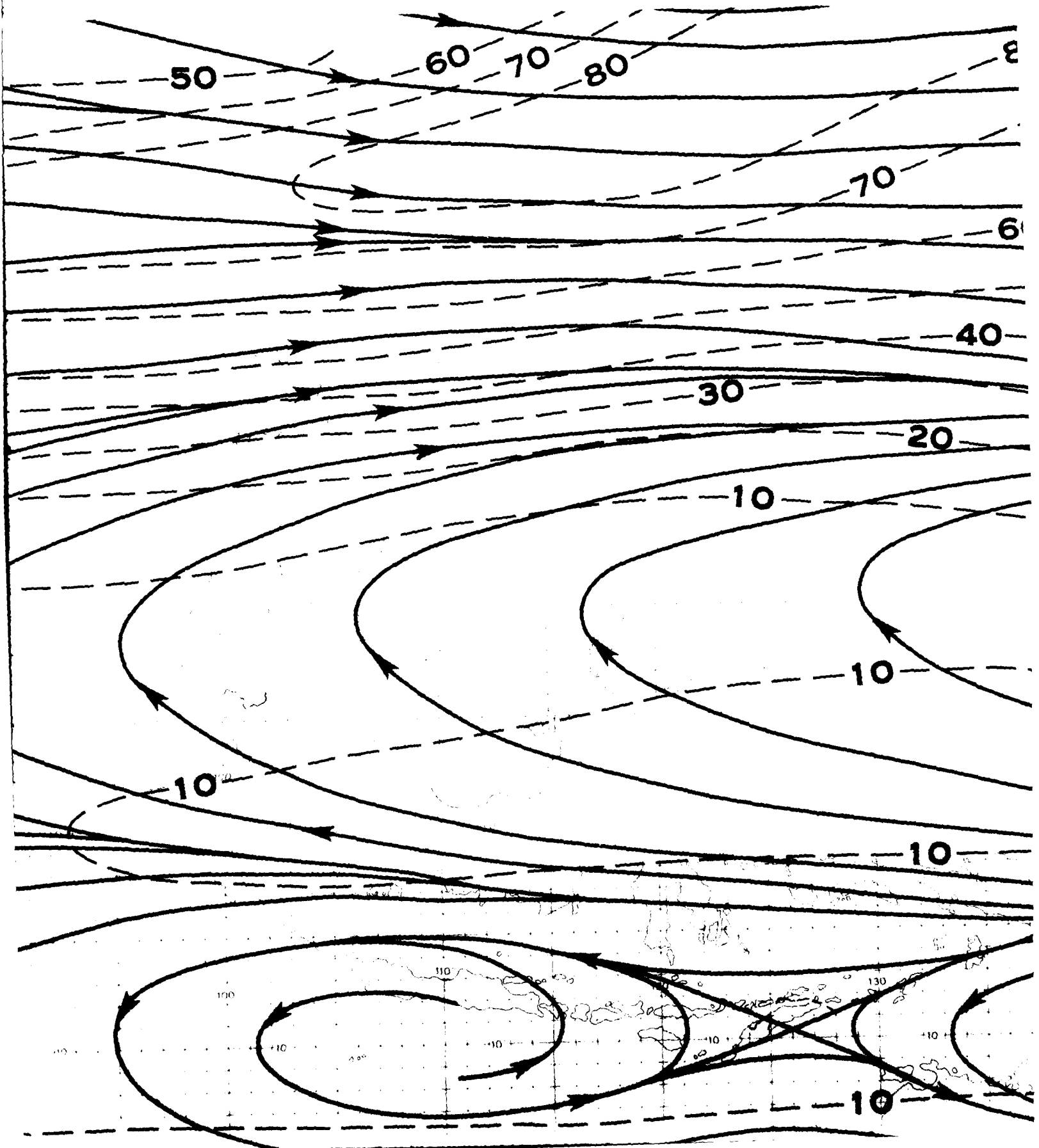
16

MULW-204W

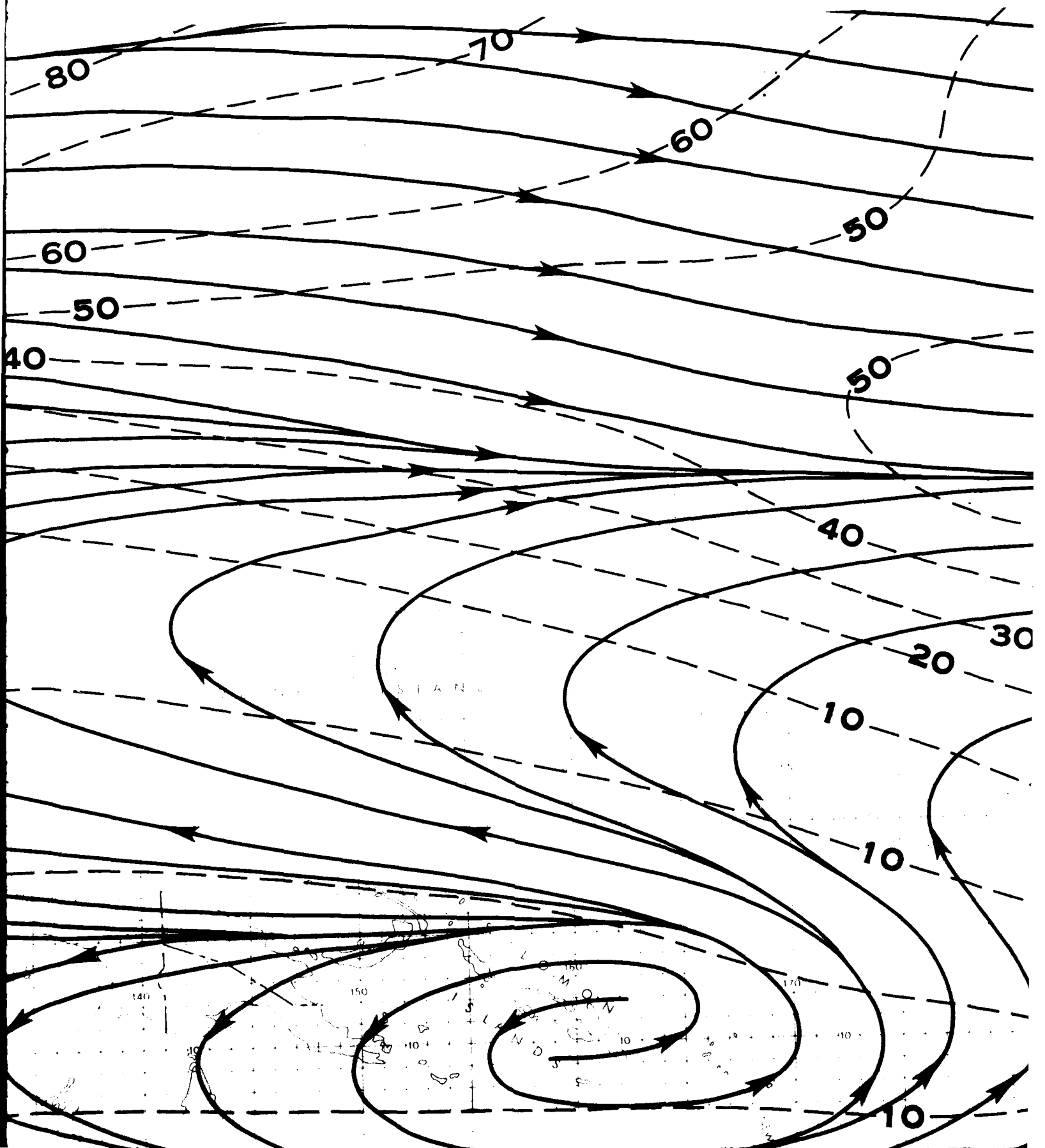




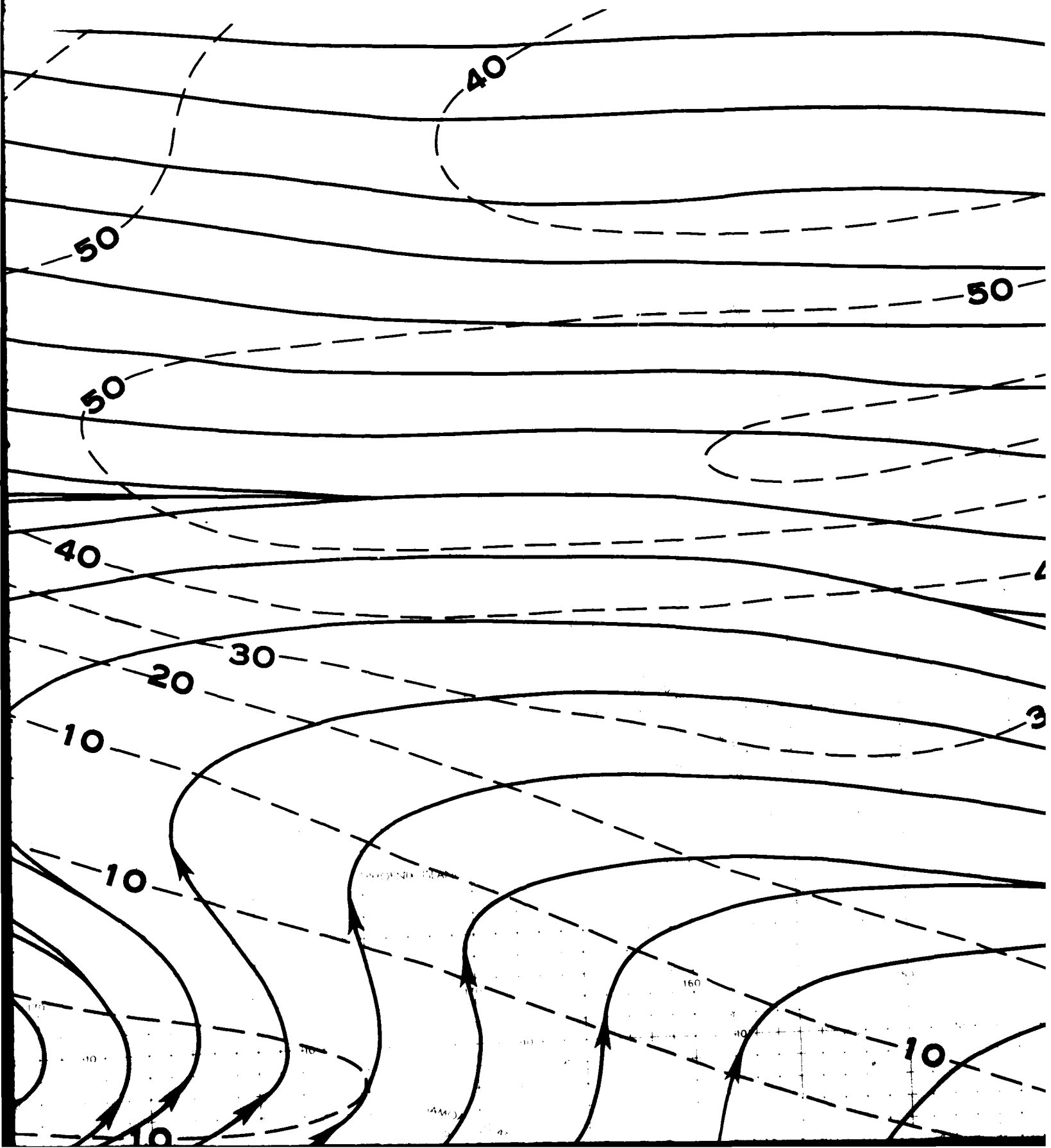
# MEAN UPPER LEVEL W

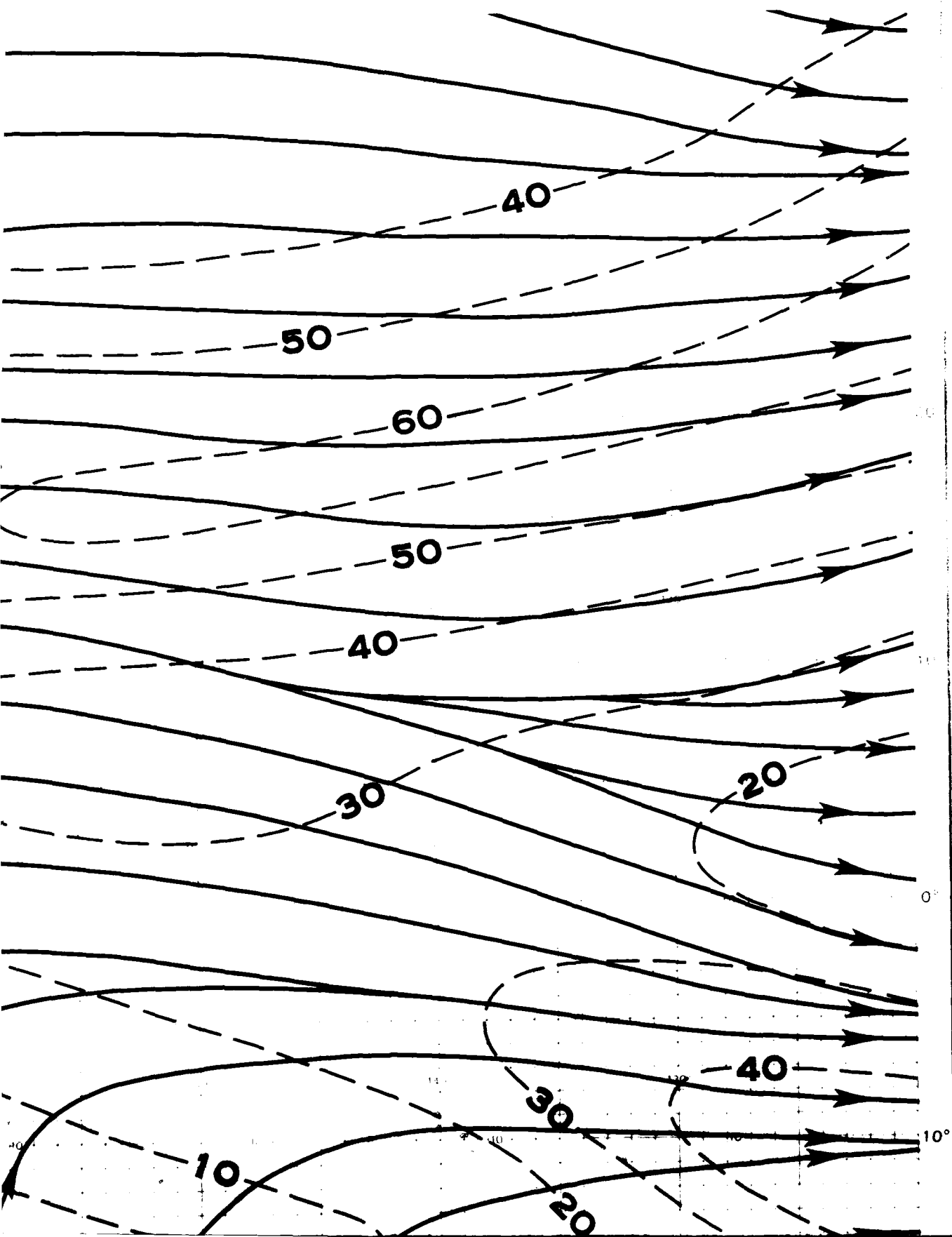


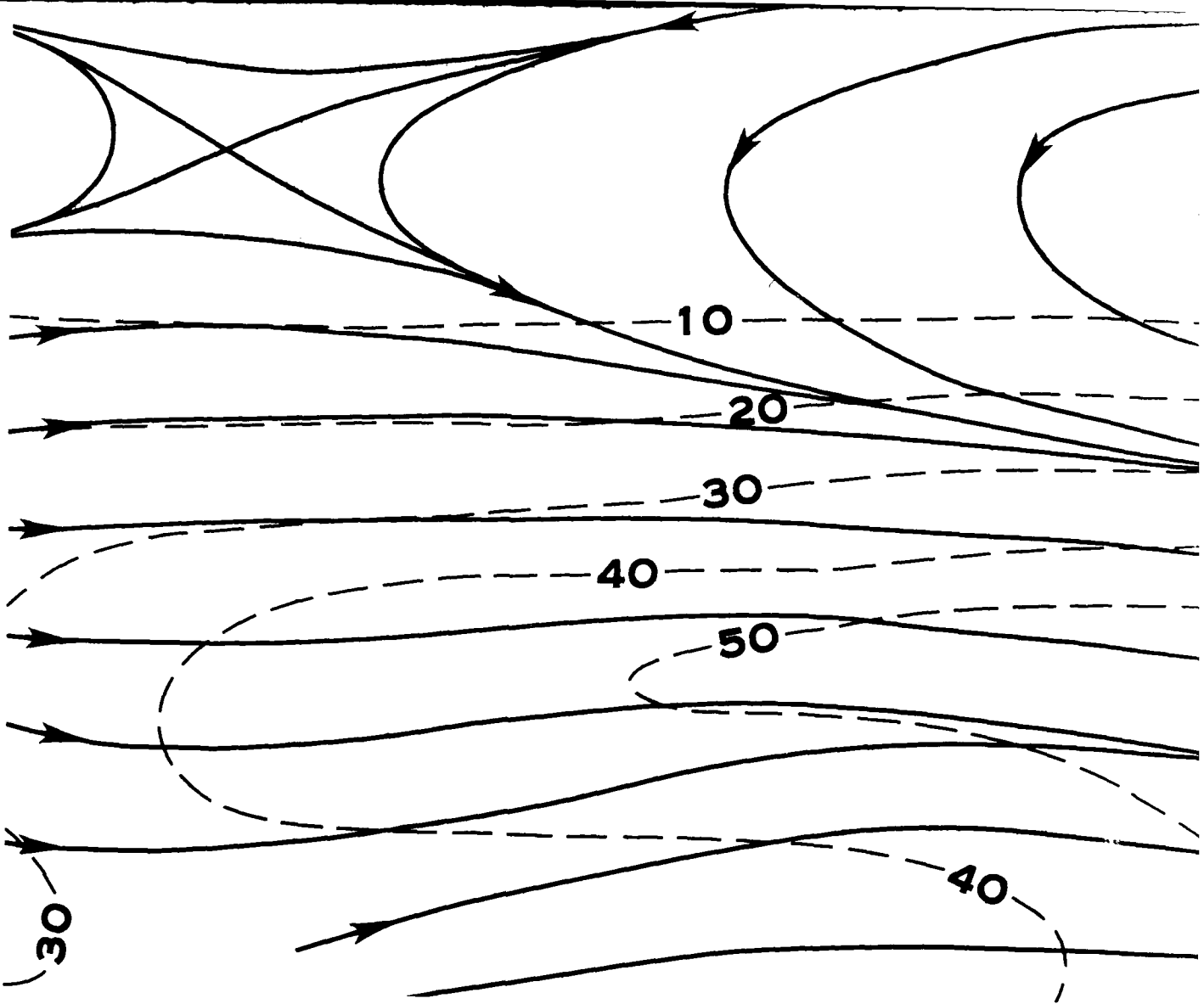
# WINDS over GLOBAL TROPICS - AIR

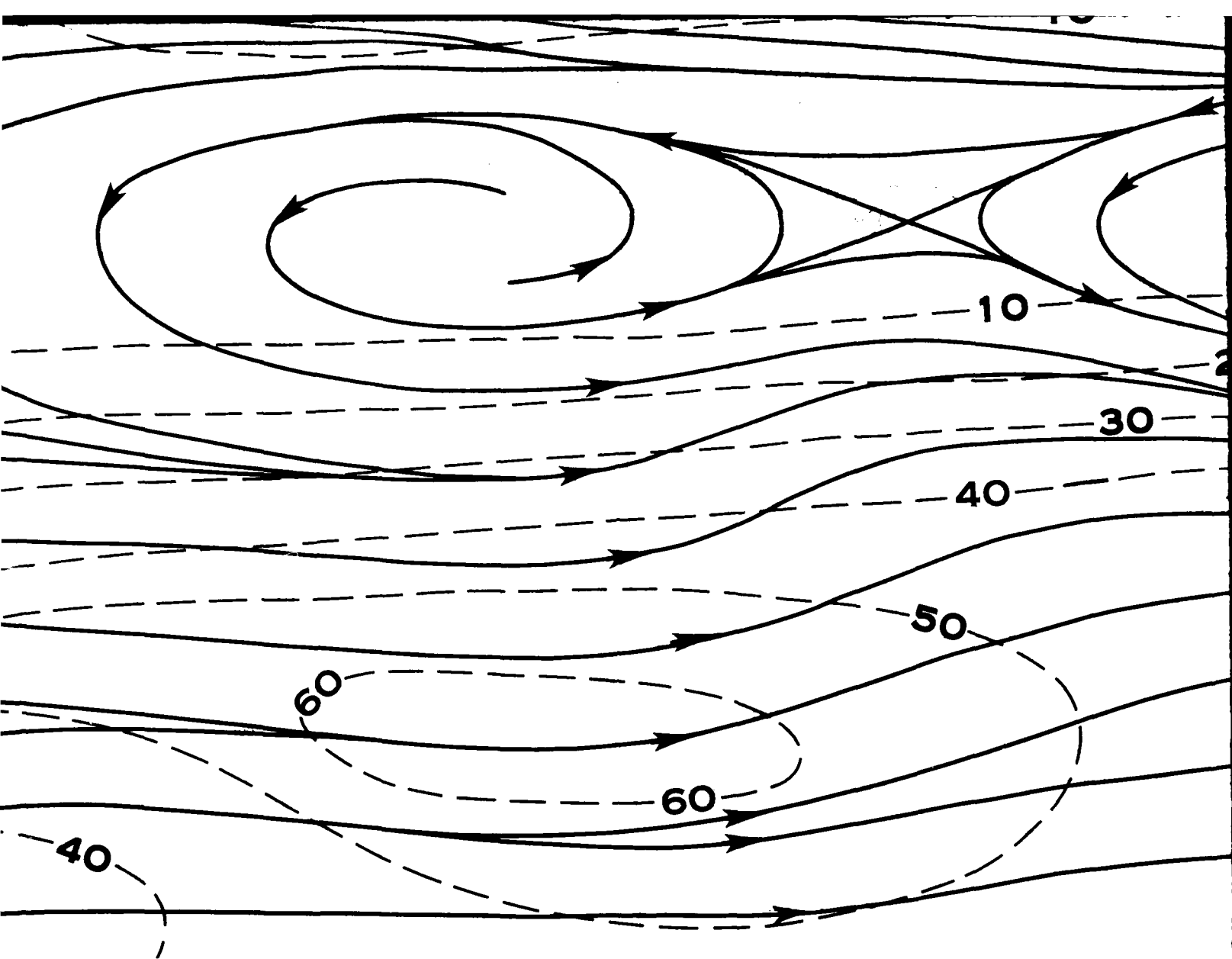


# PICS - APRIL 200mb

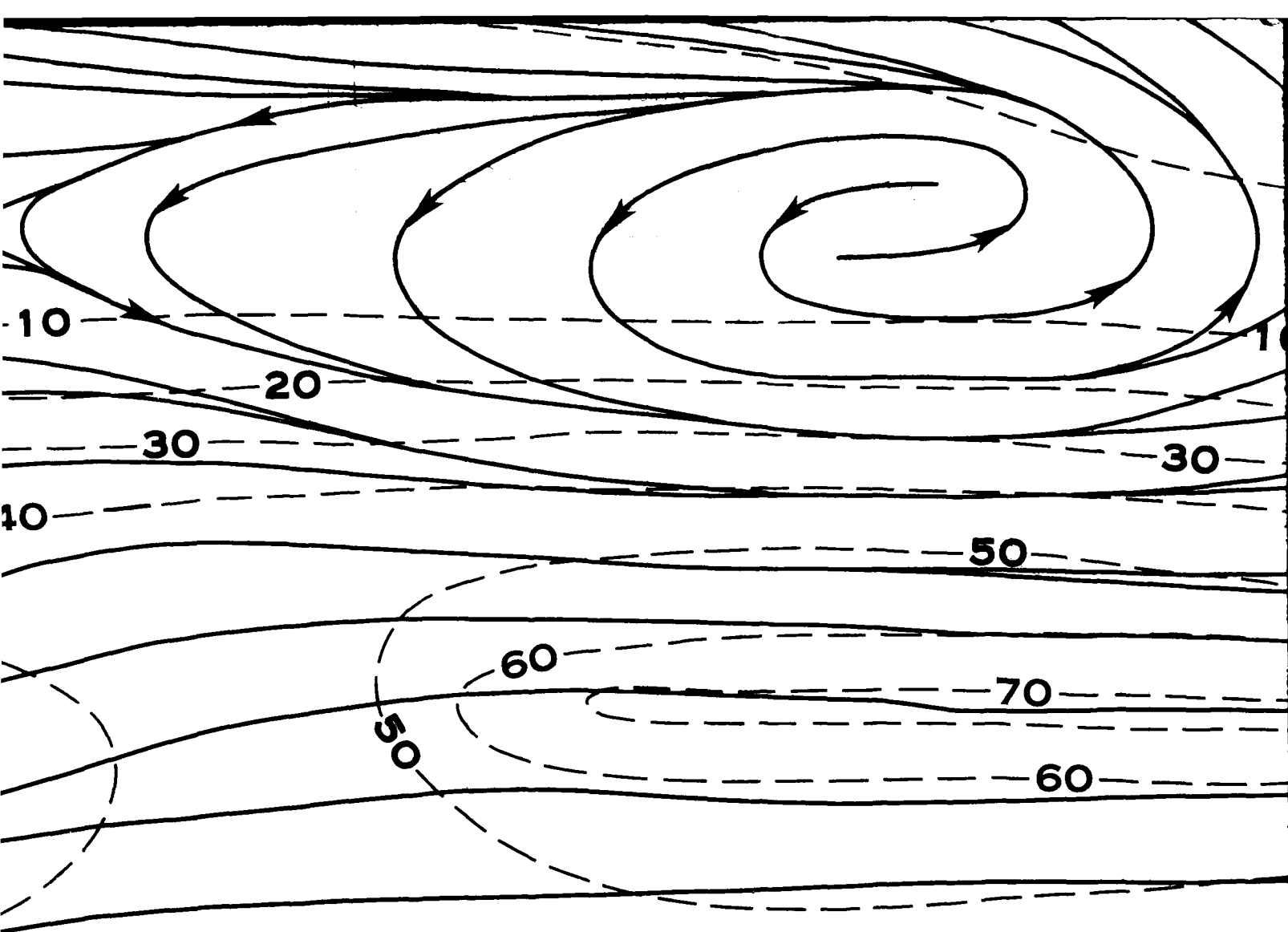




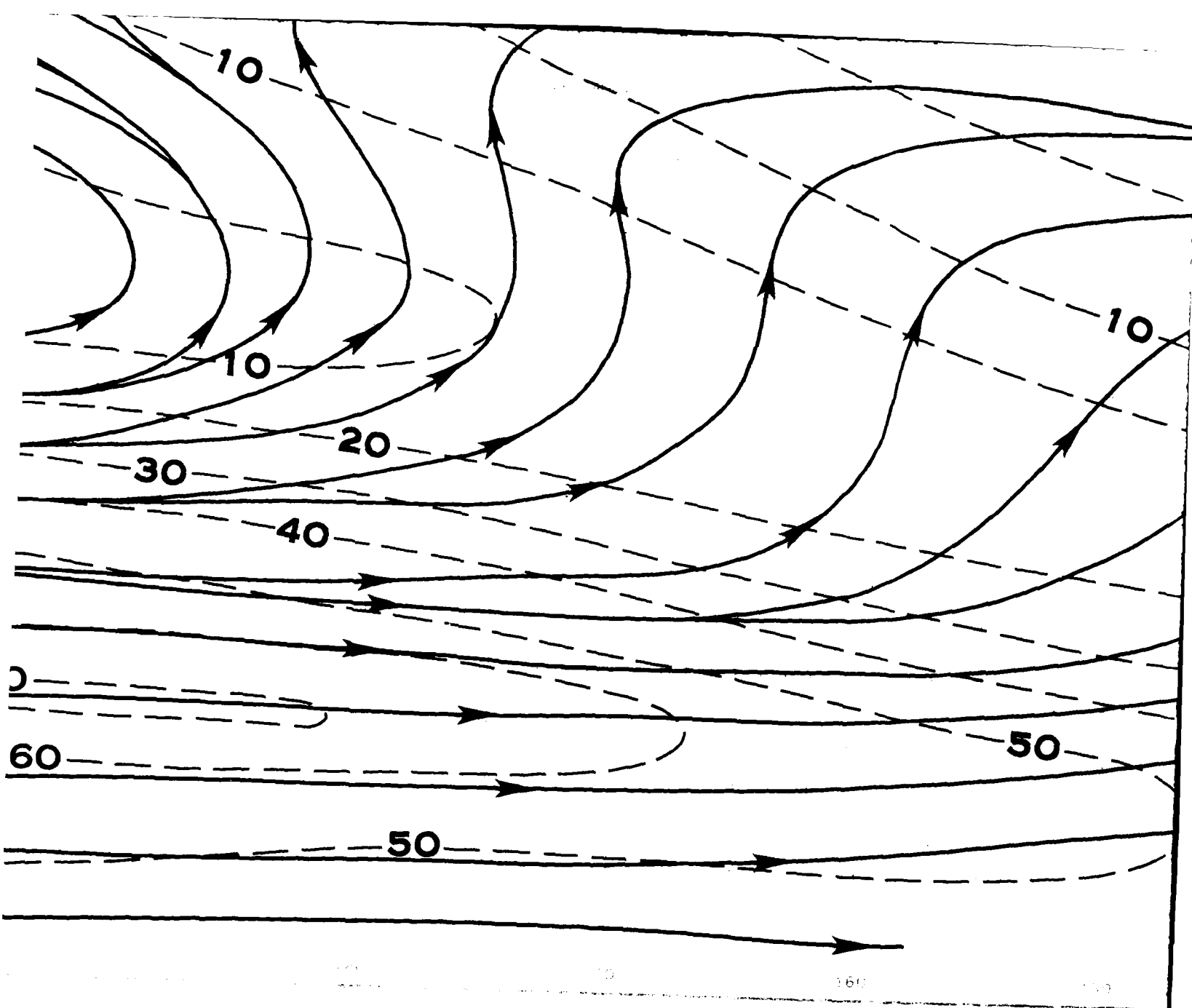




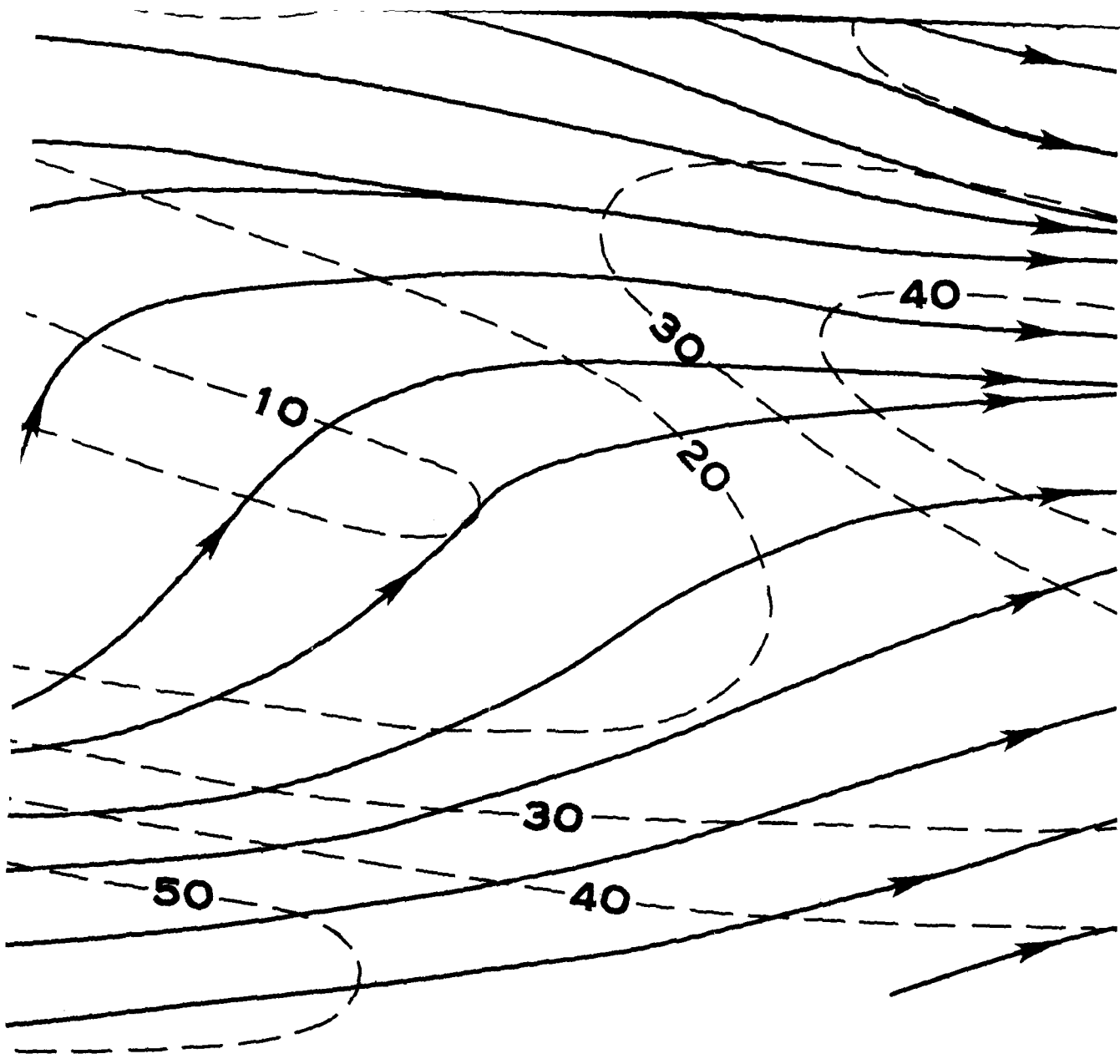
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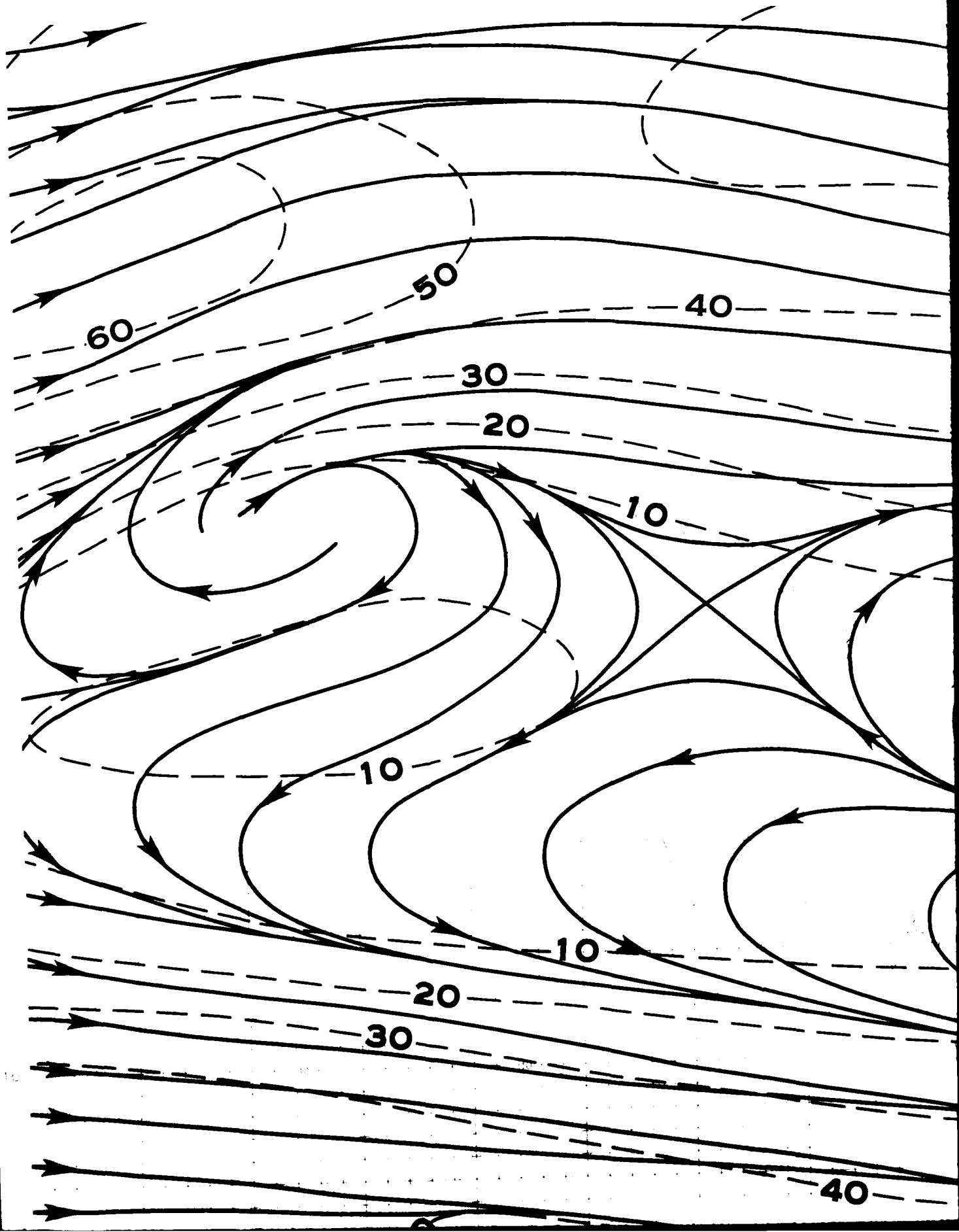


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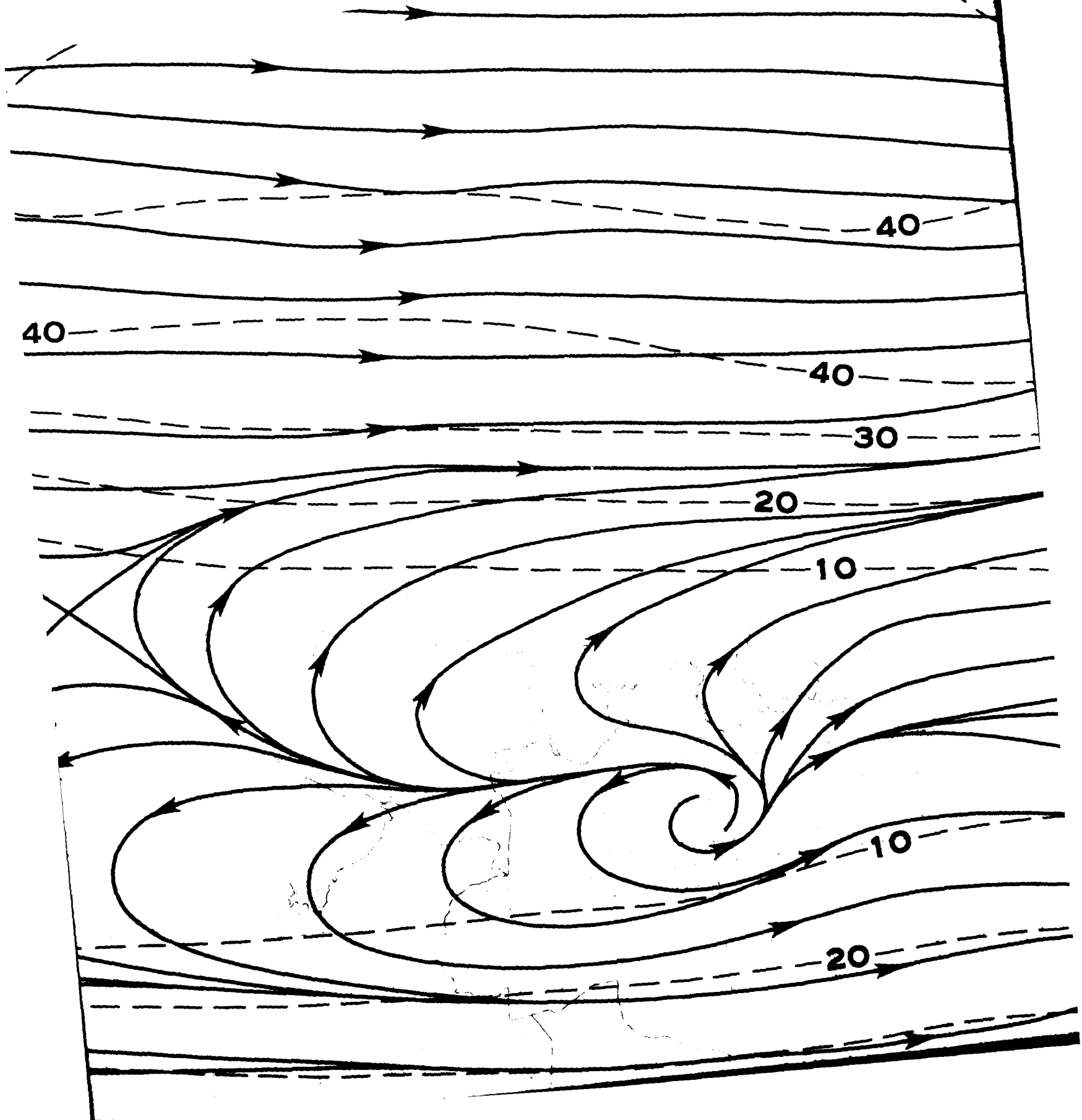


100 120 140 160

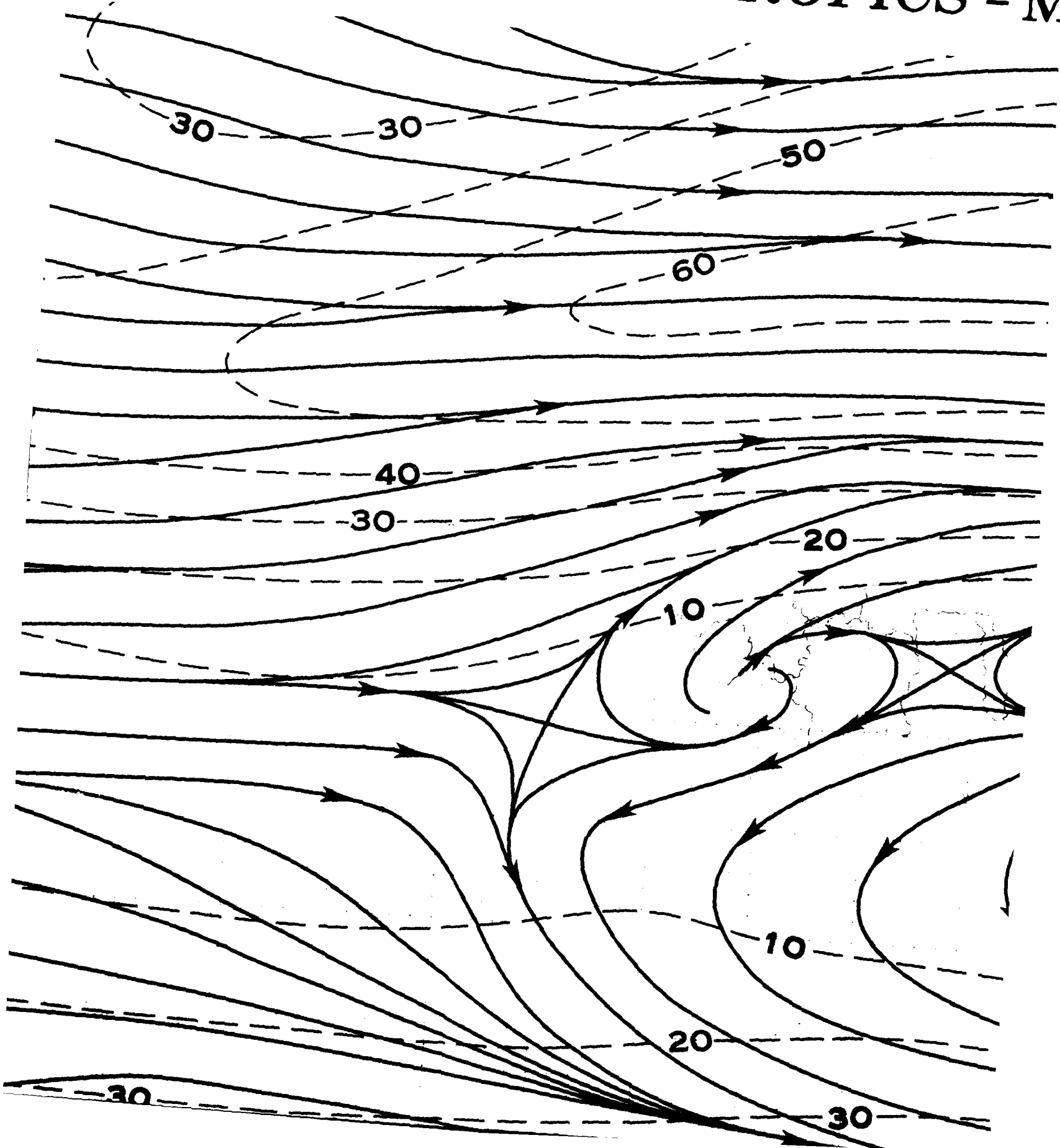
MULW-204E



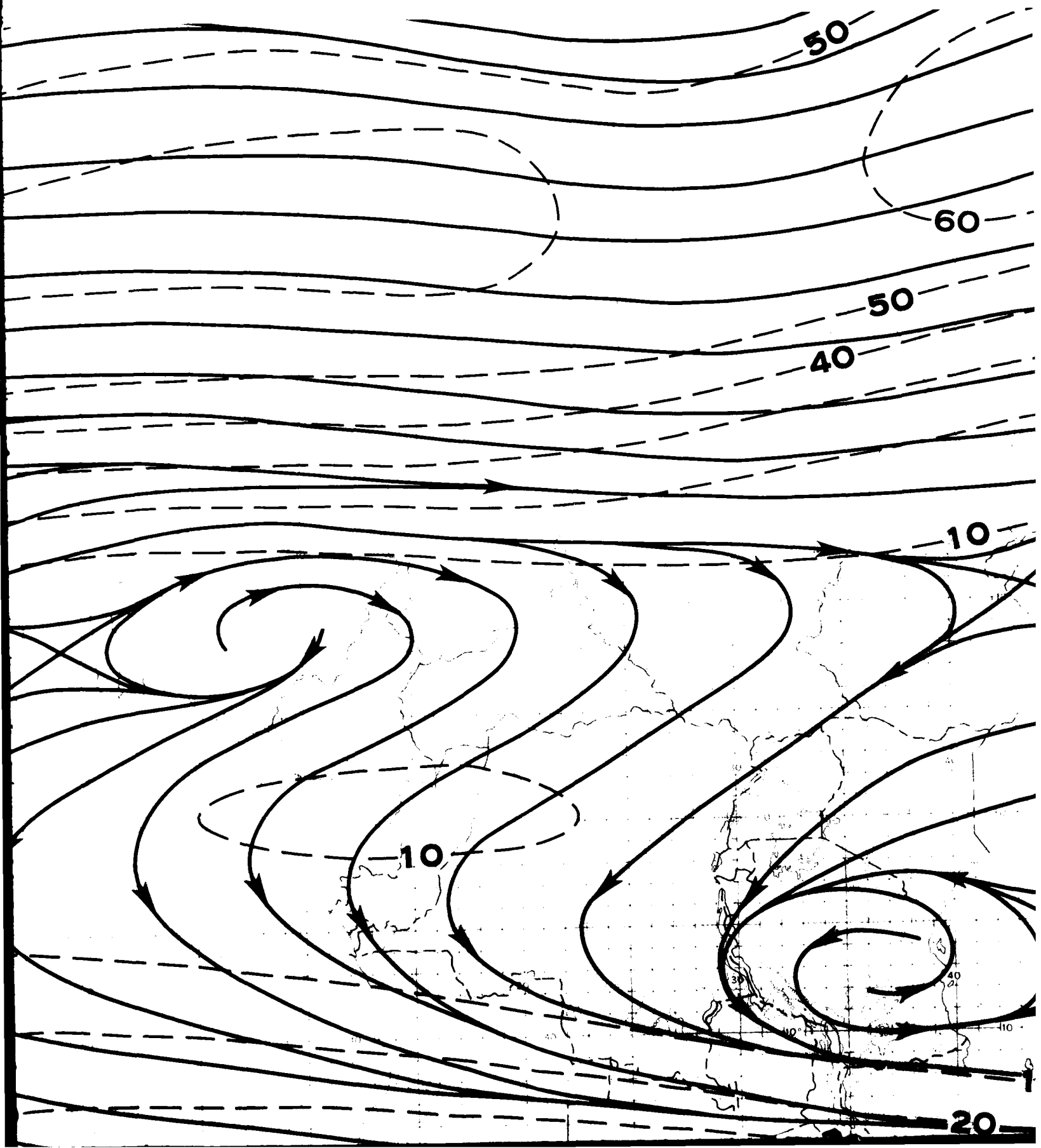
# MEAN UPPER LEVEL W



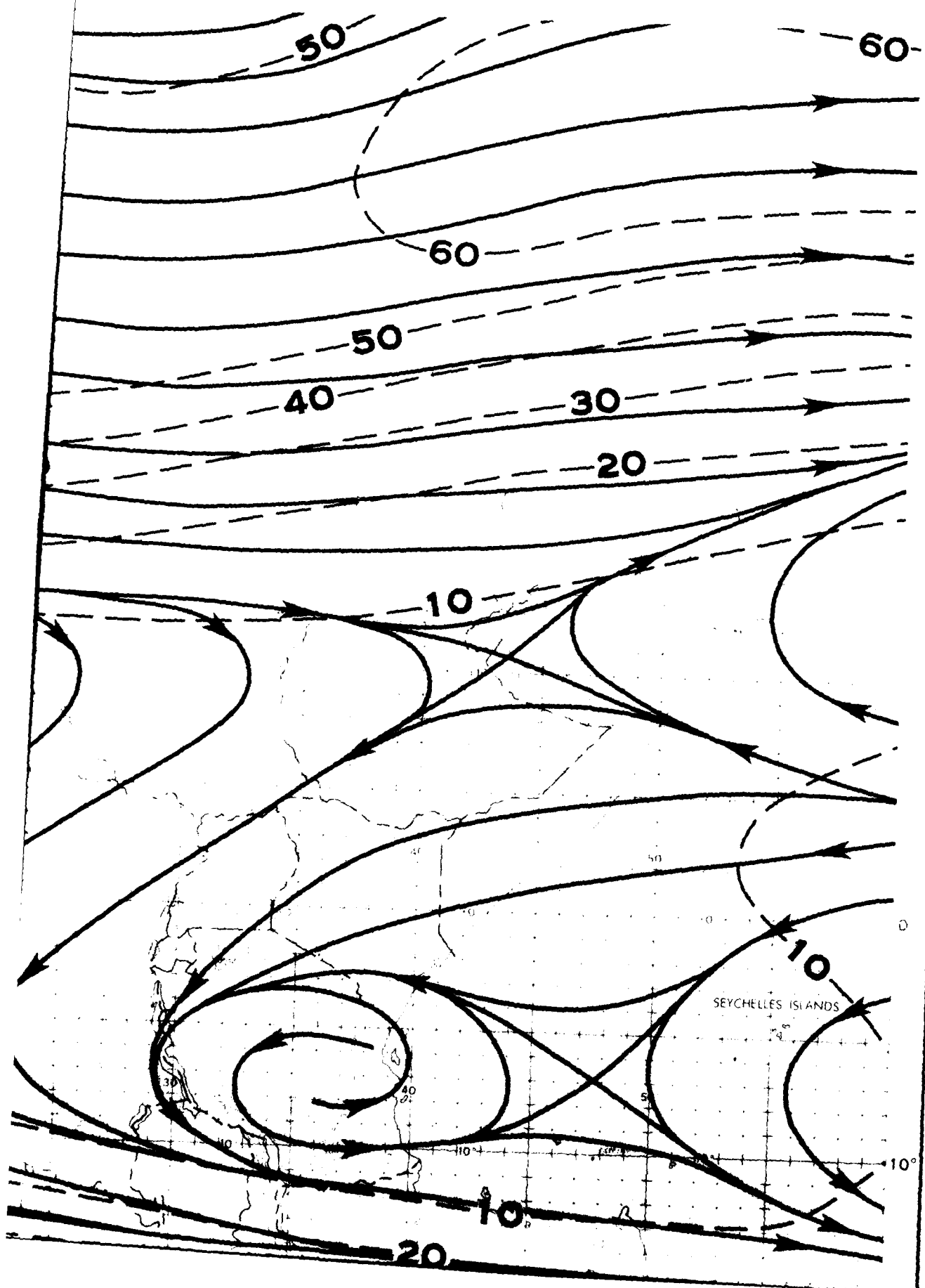
# WINDS over GLOBAL TROPICS - N

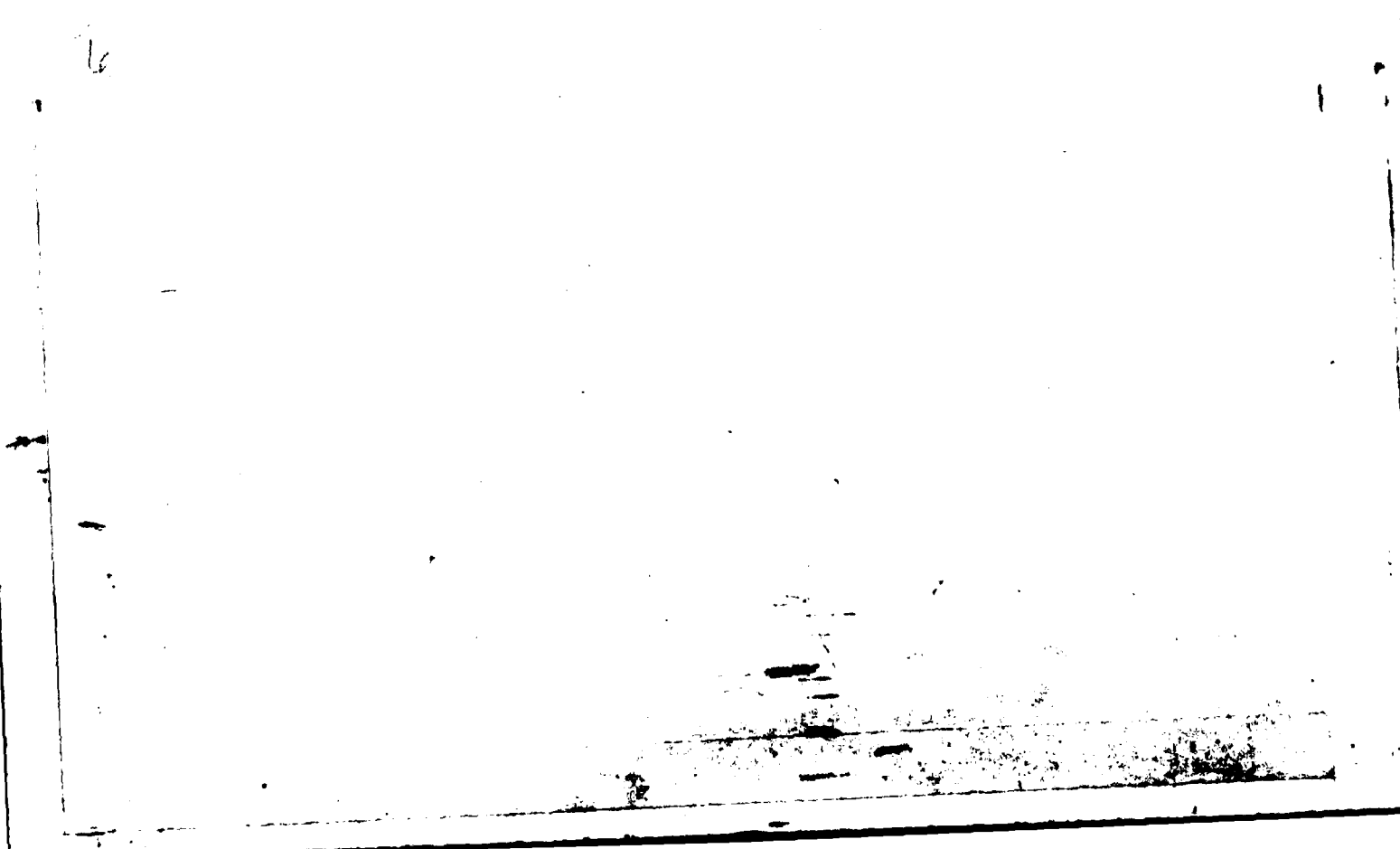
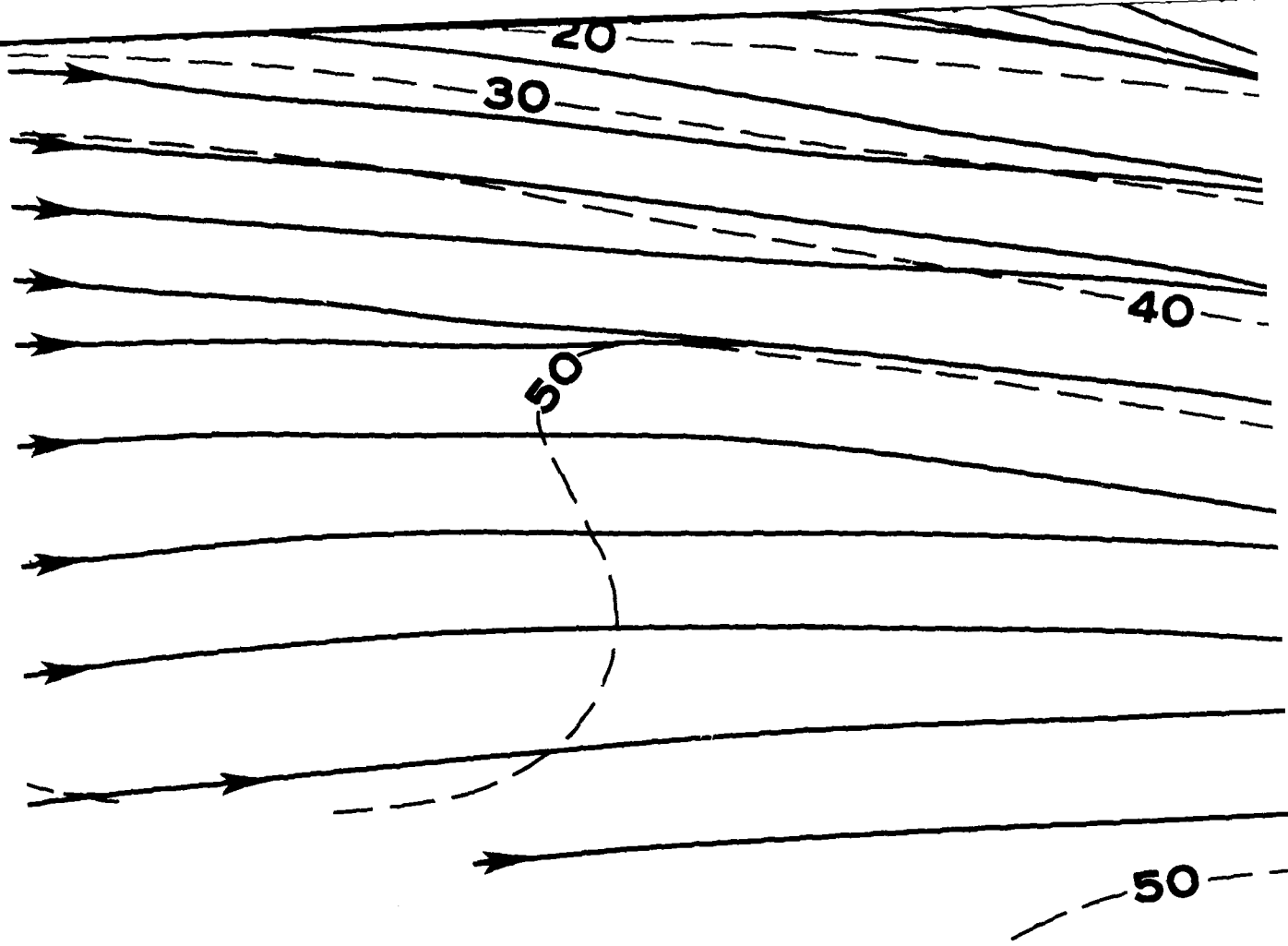


S - MAY 200mb

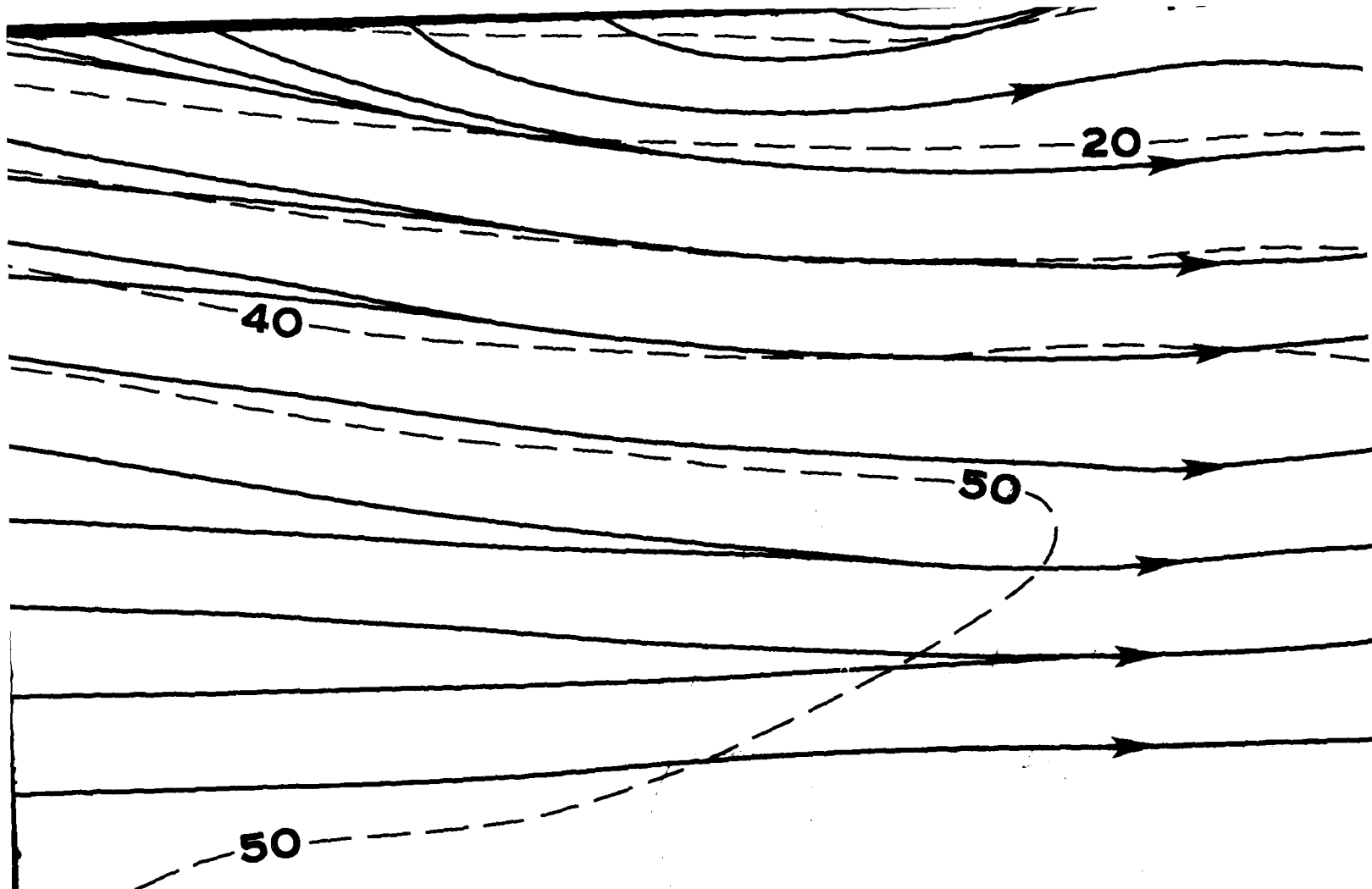


1 5

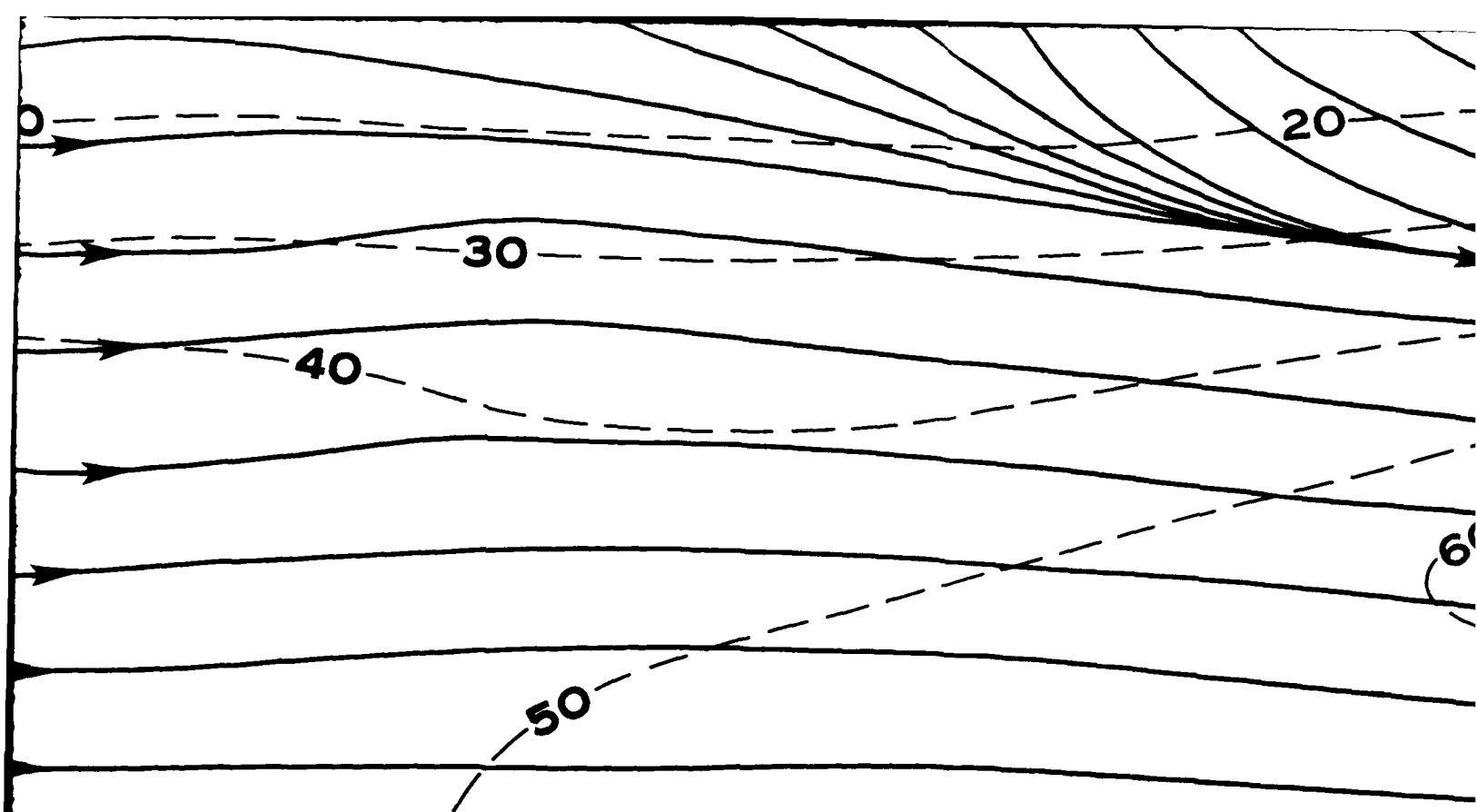


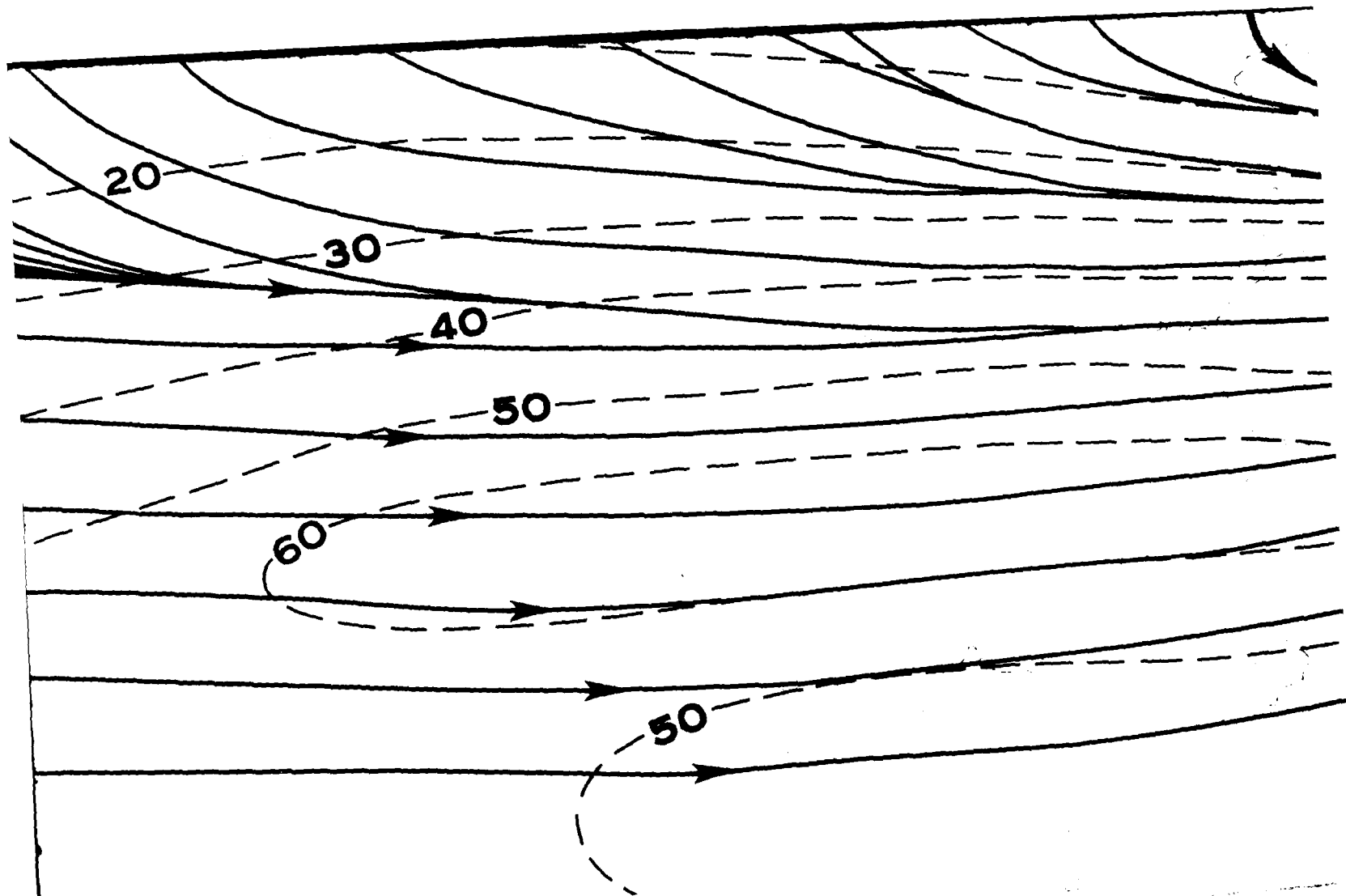




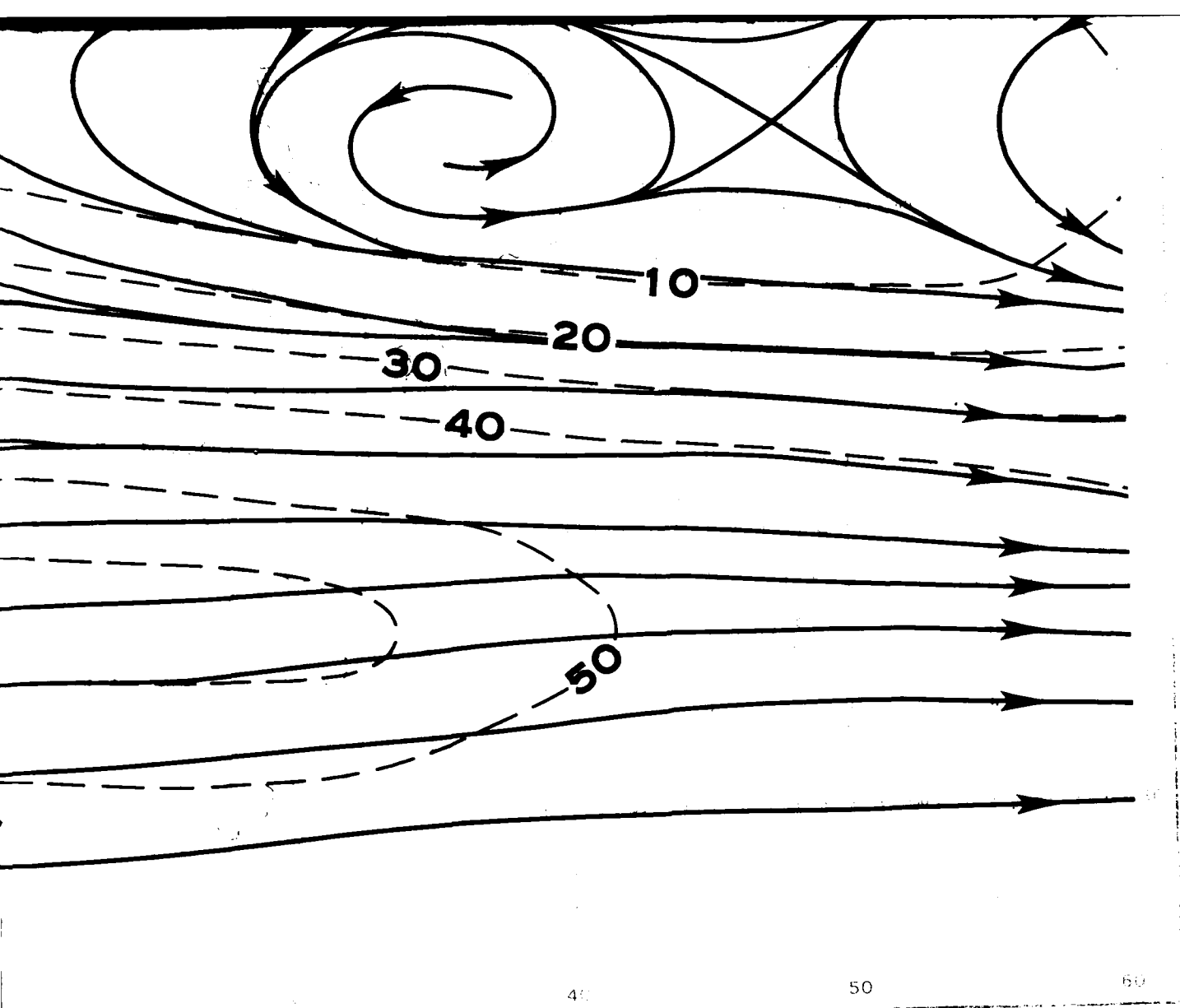


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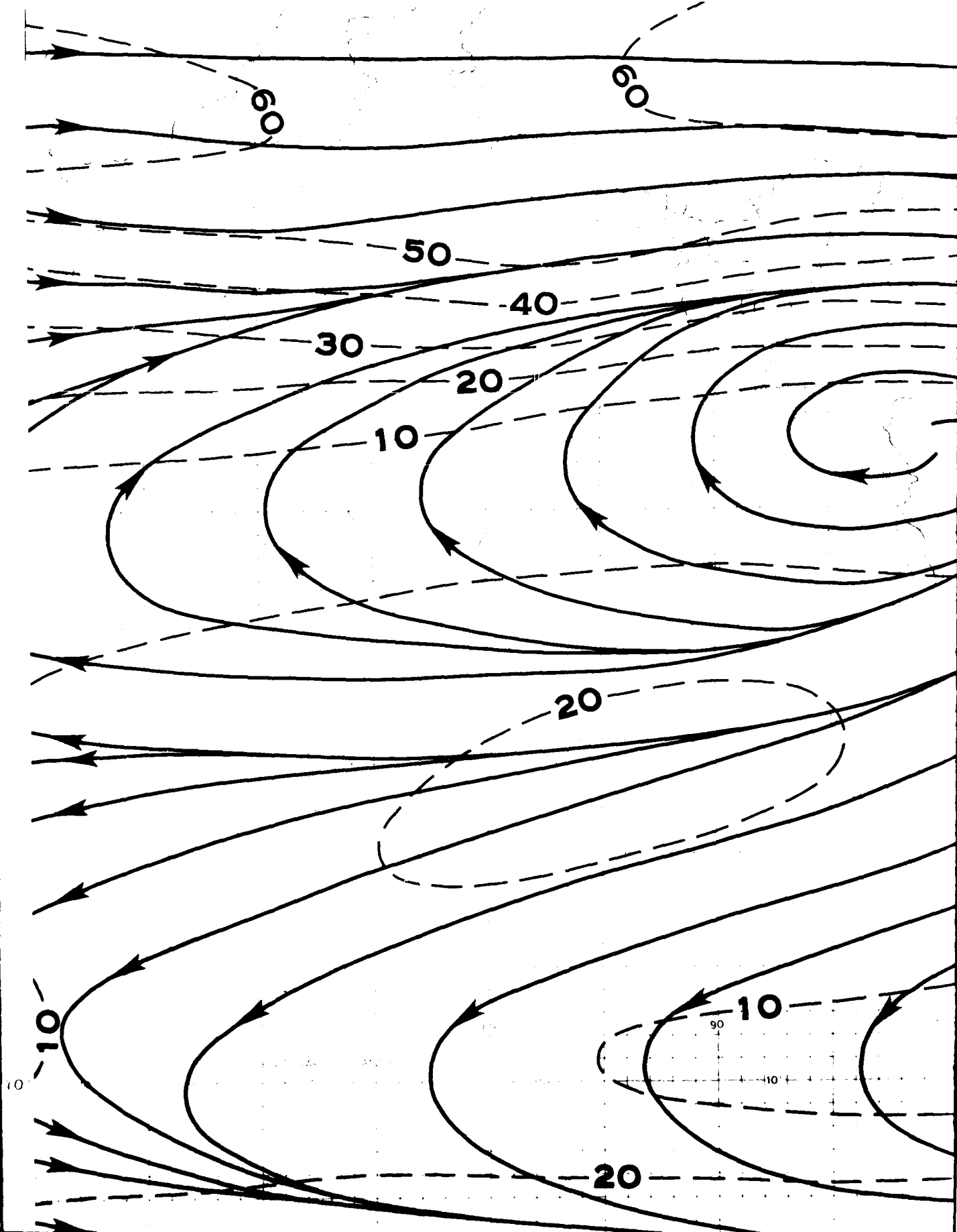




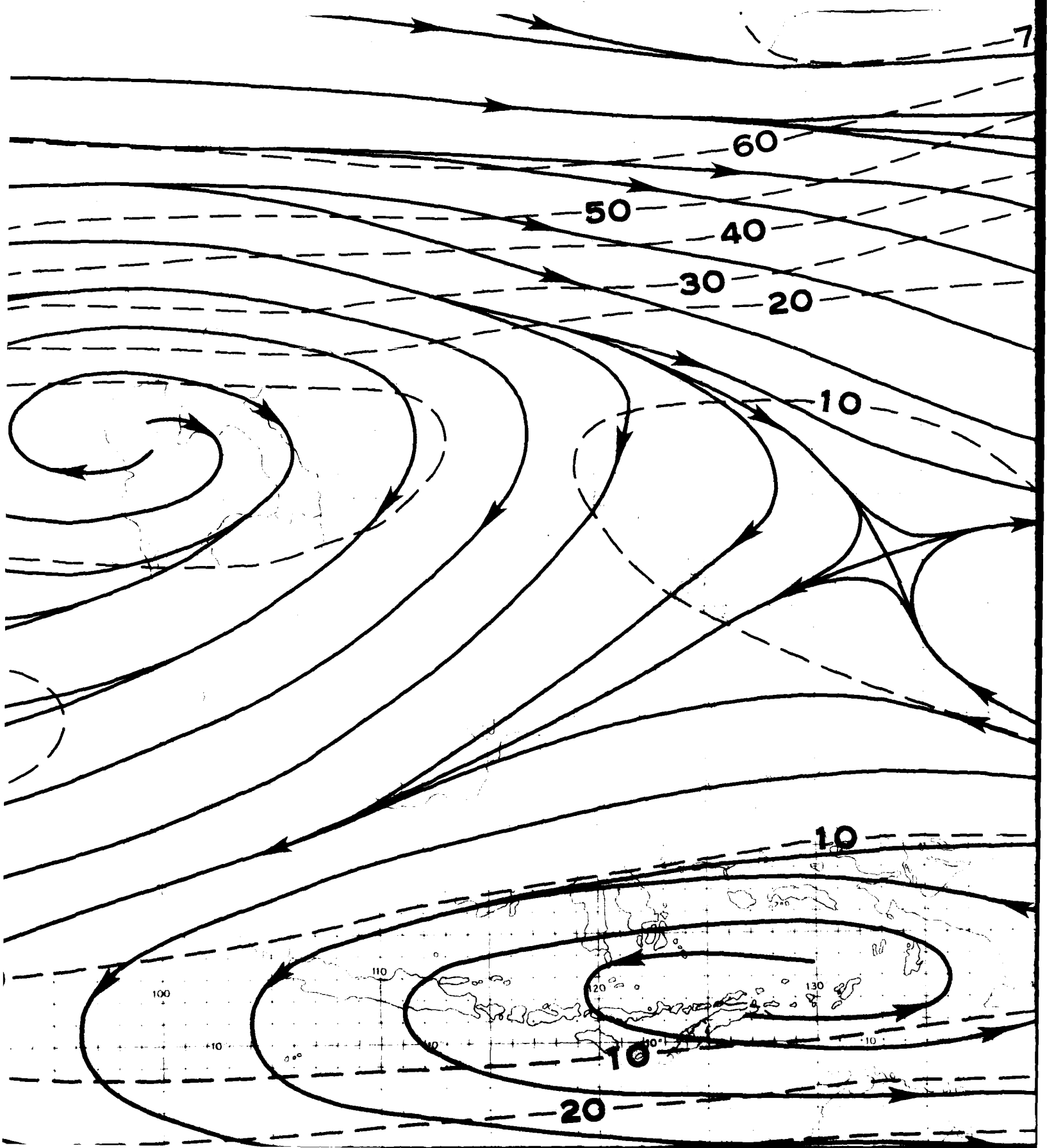
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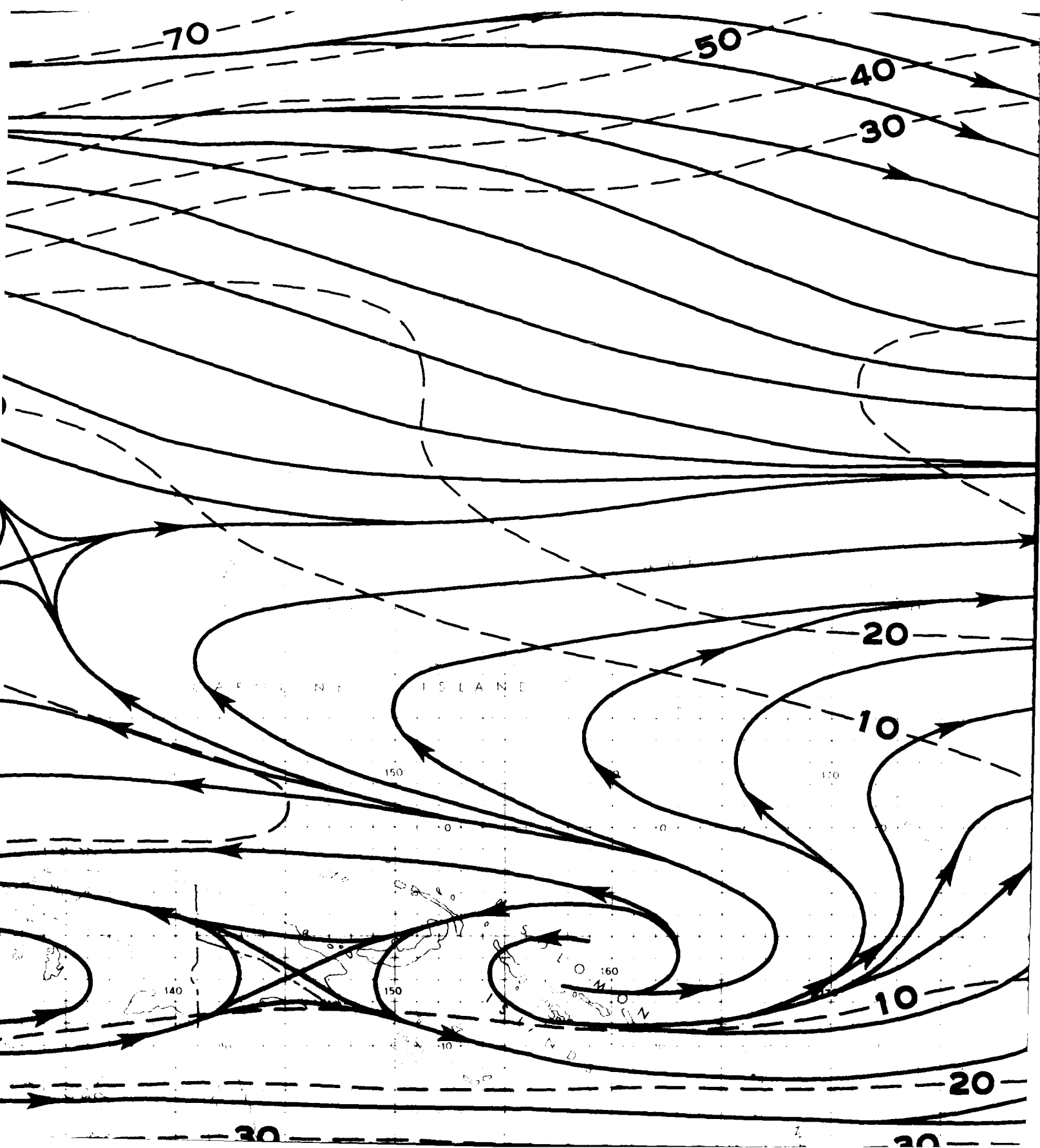
MULW-205W



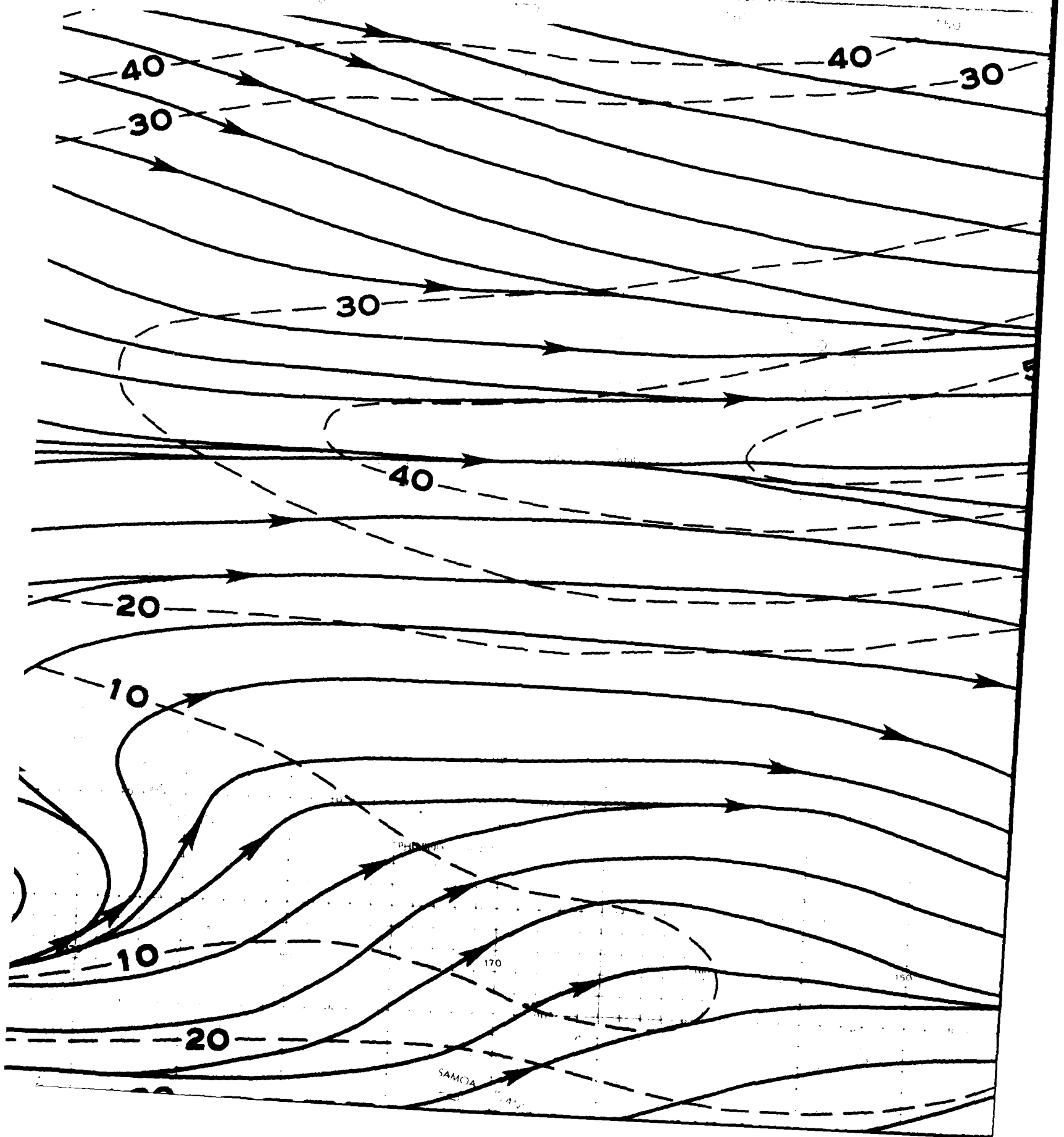
# MEAN UPPER LEVEL WIND



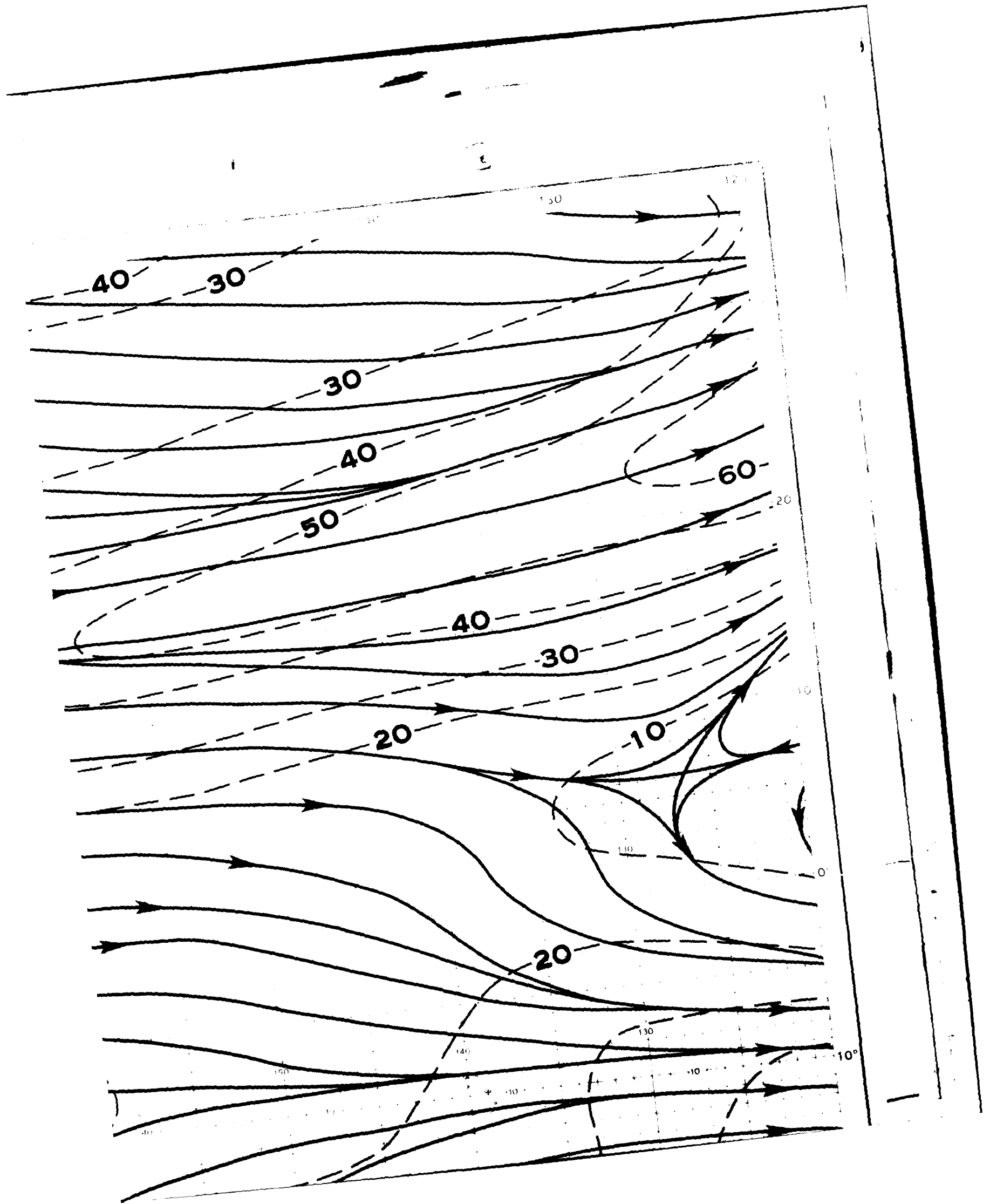
# L WINDS over GLOBAL TROPICS -

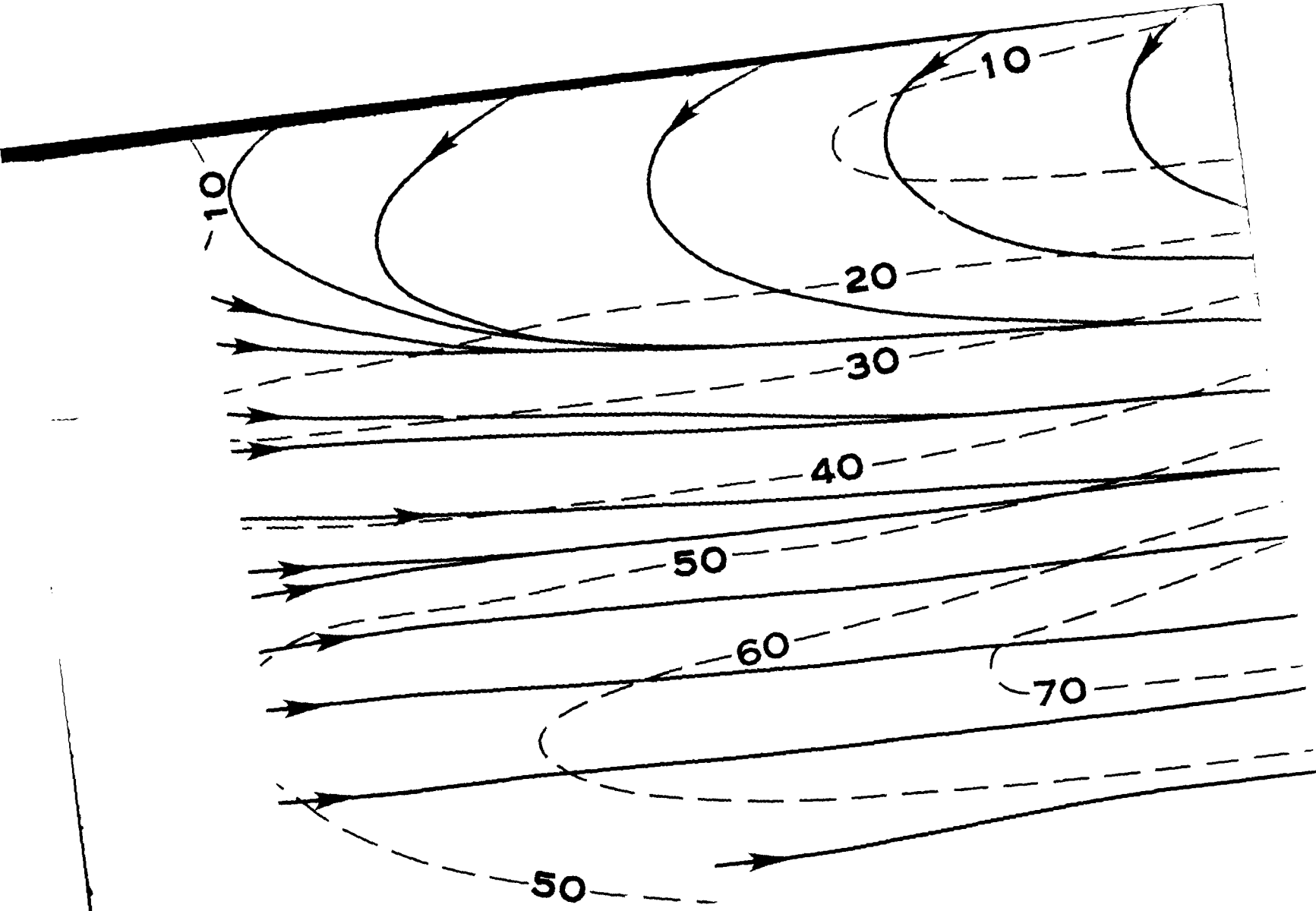


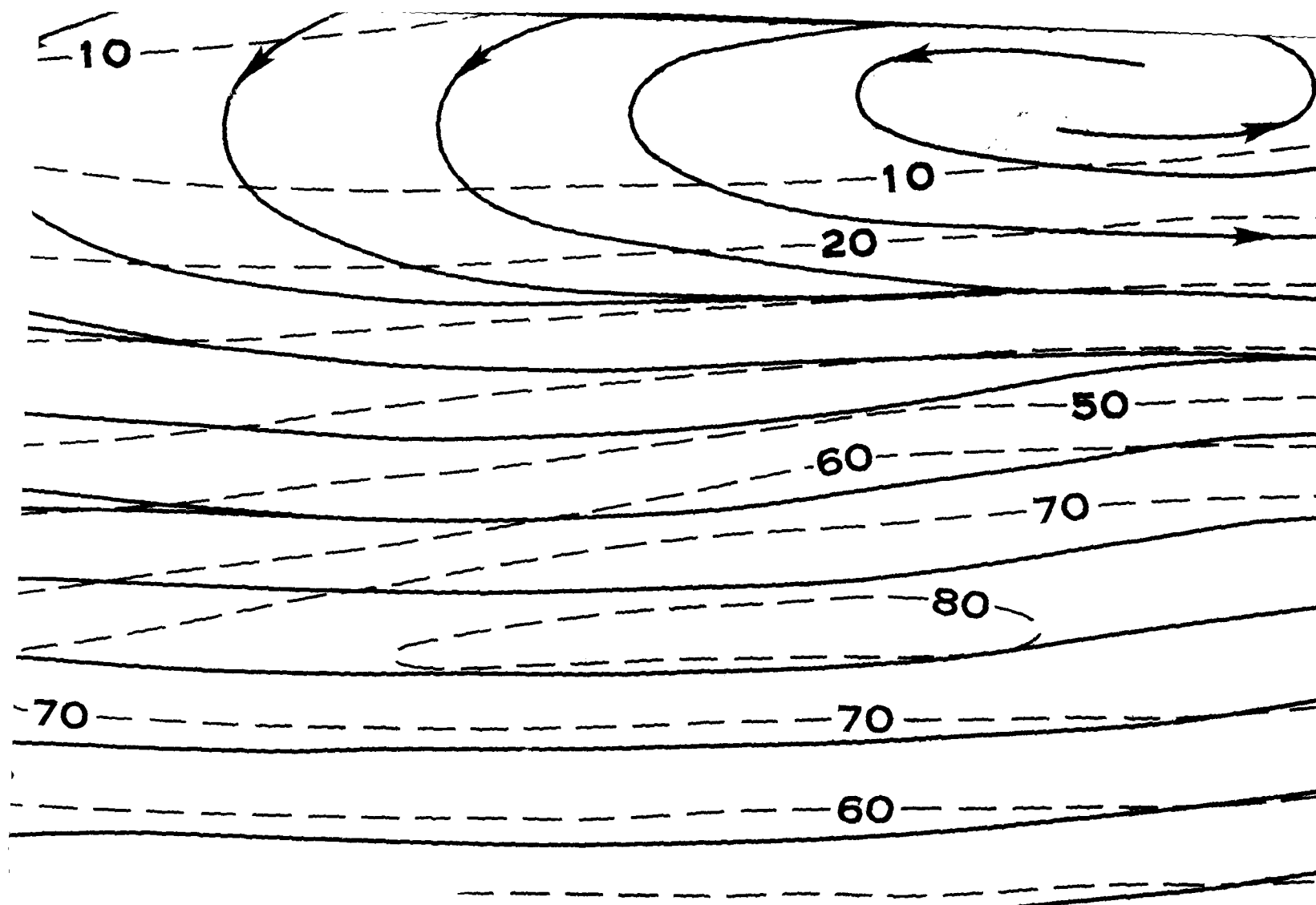
# TROPICS - MAY 200mb

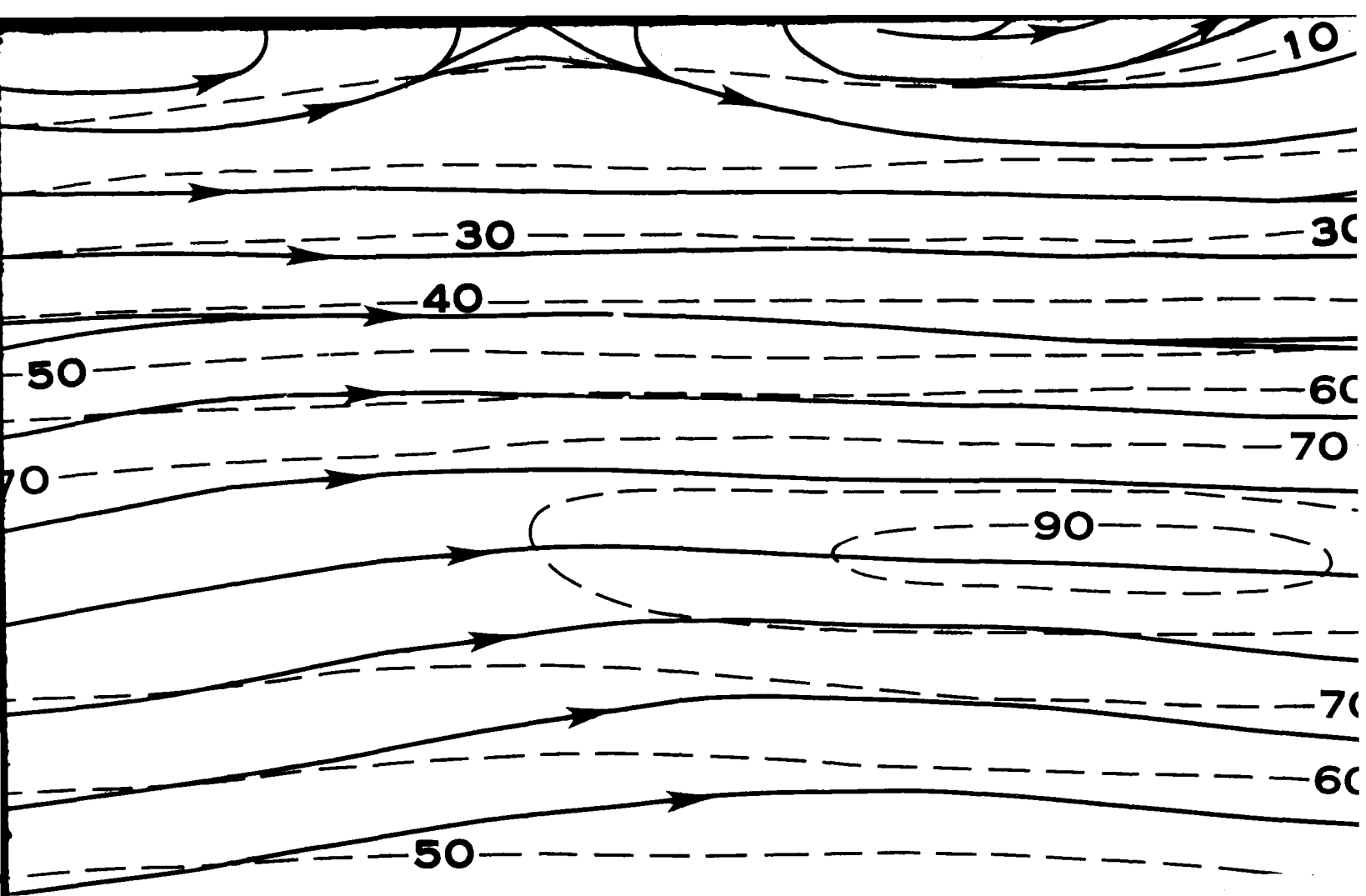




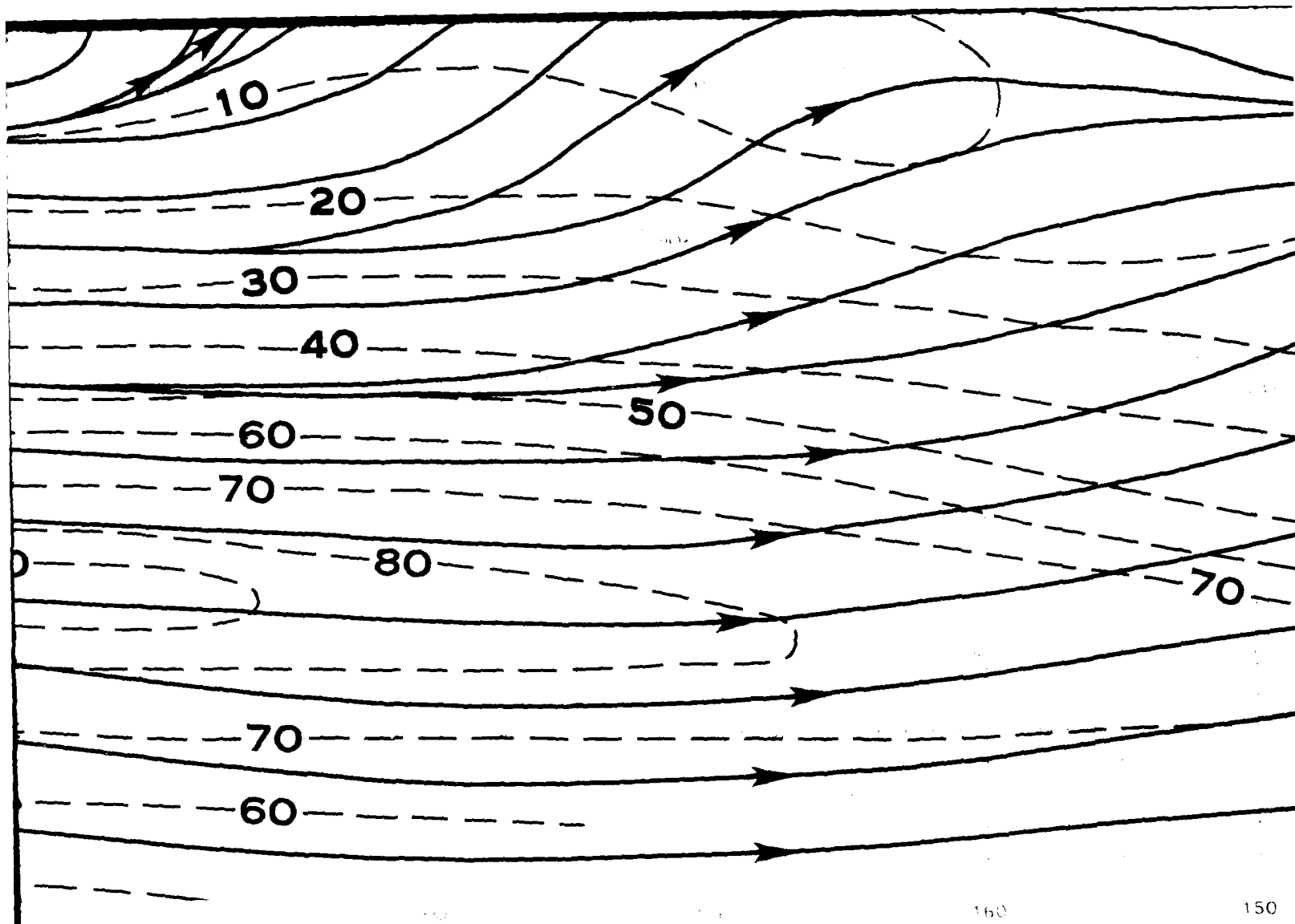




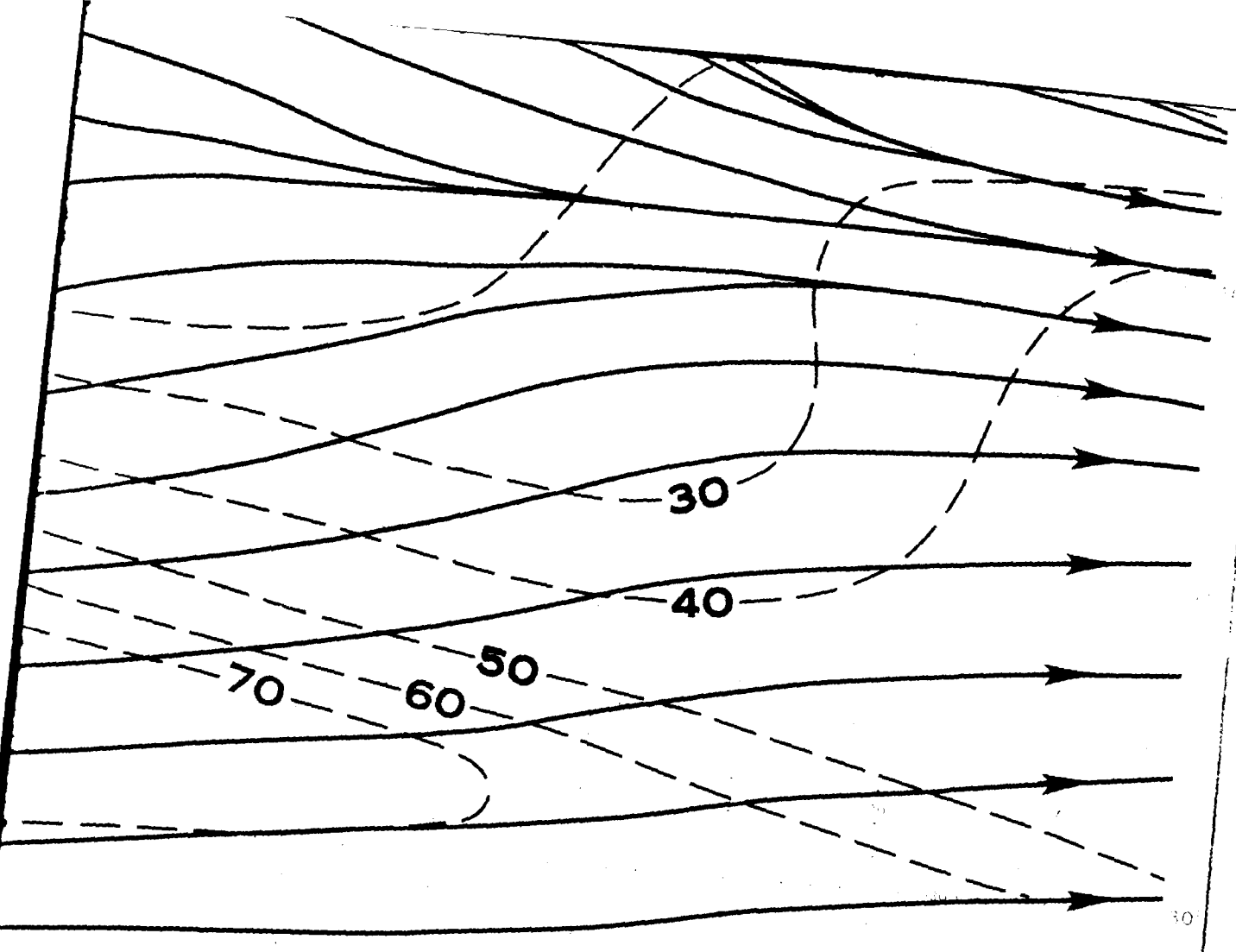




③



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150

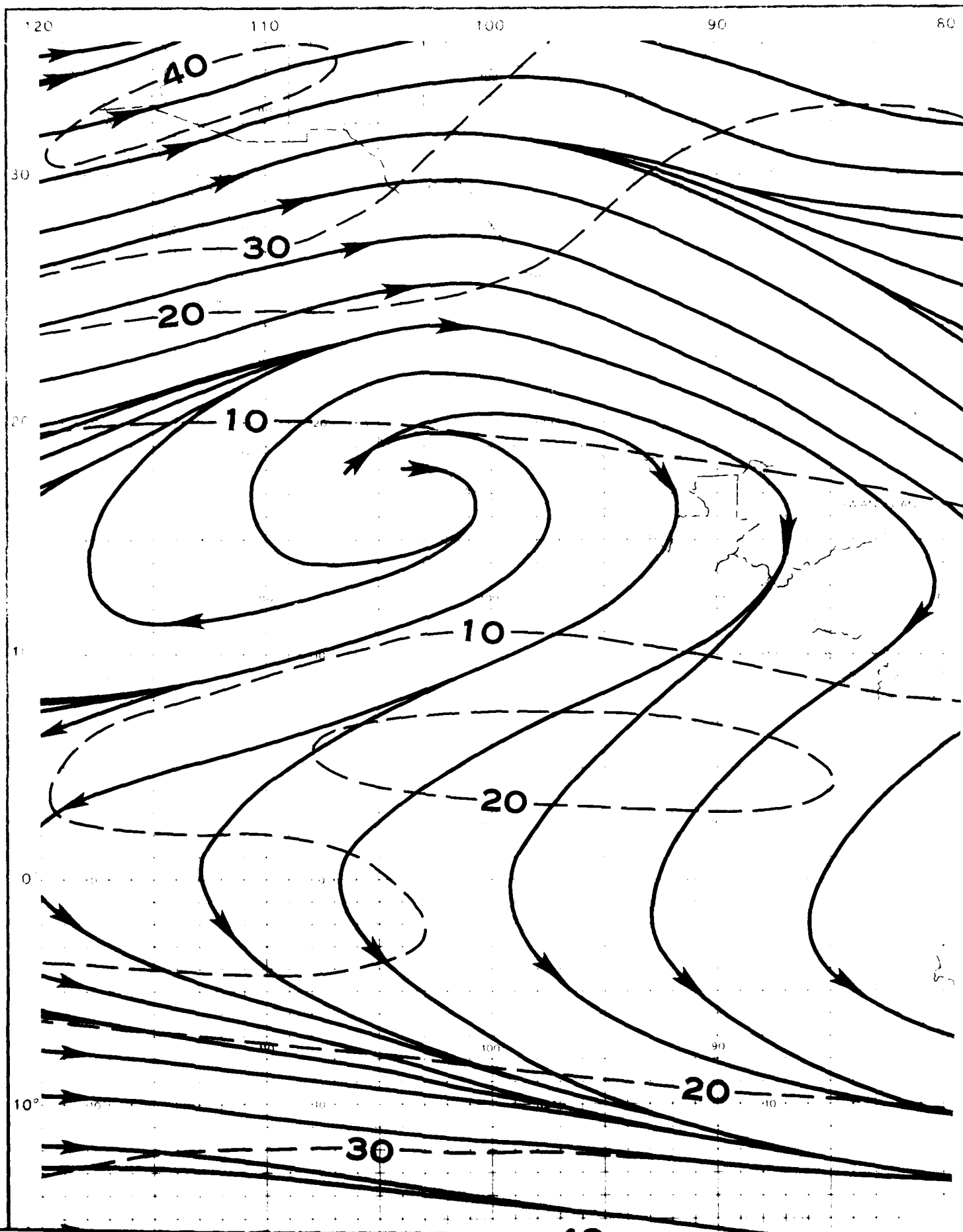
140

130

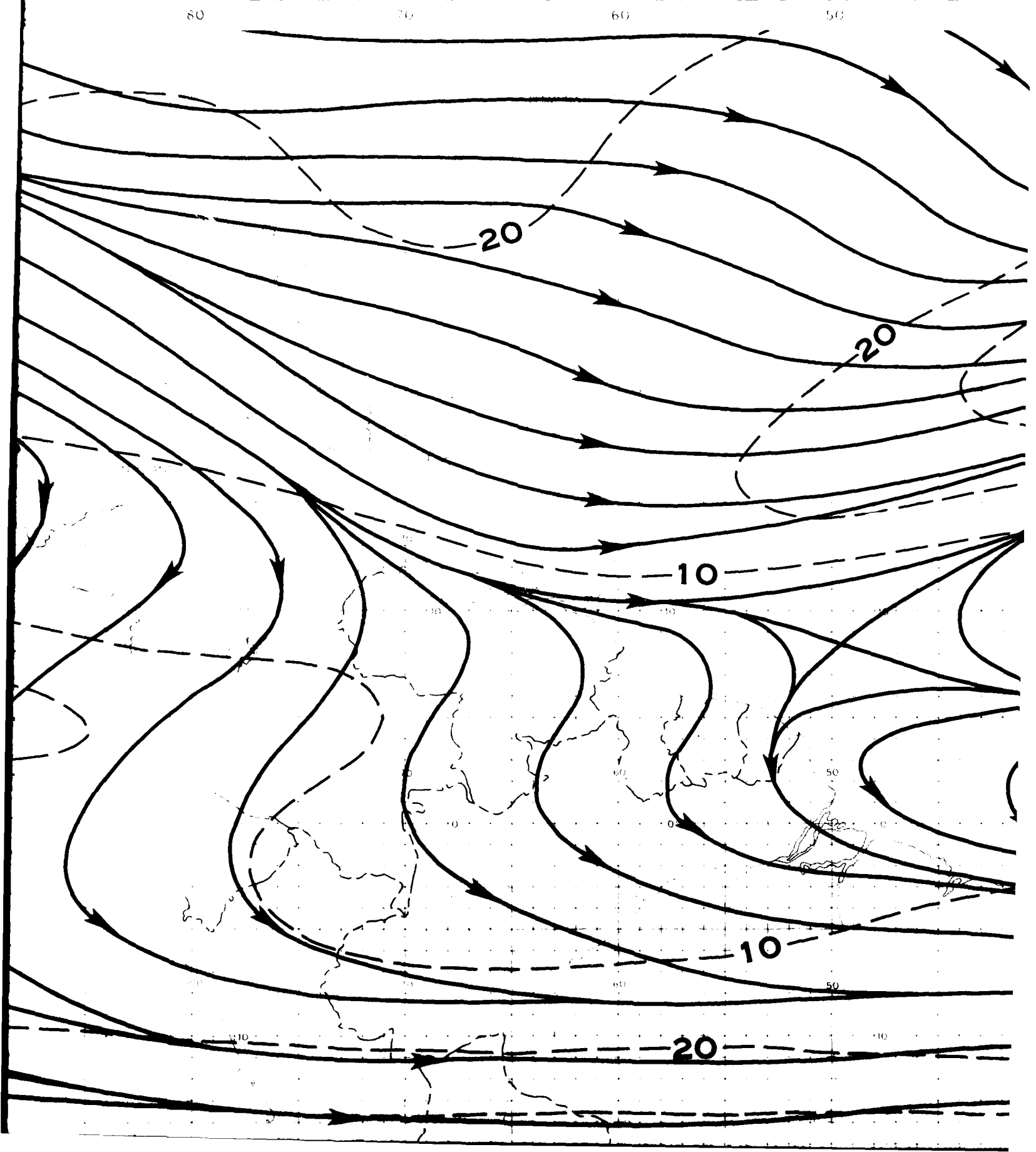
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(10)

MULW-205E

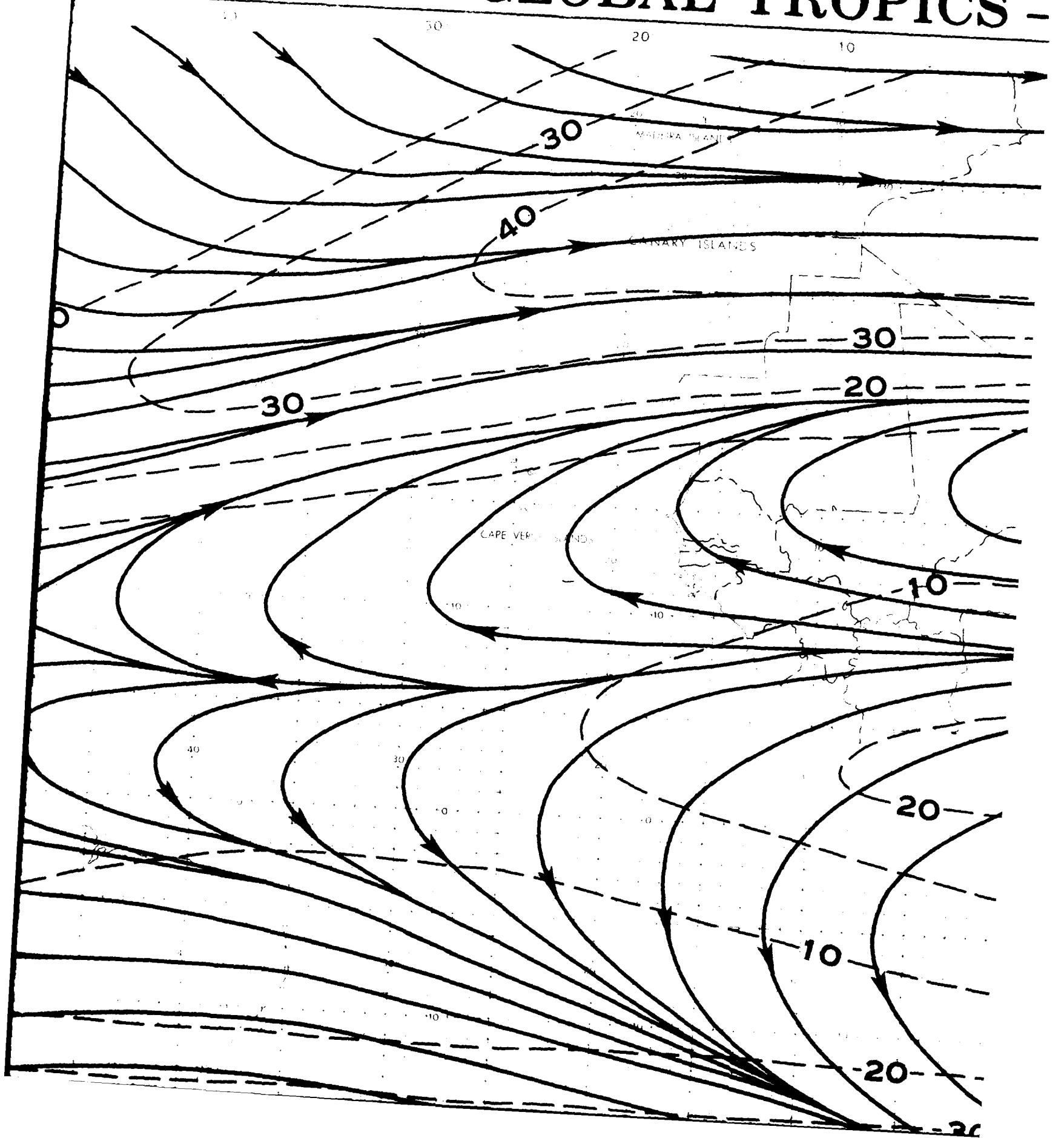


# MEAN UPPER LEVEL WIND

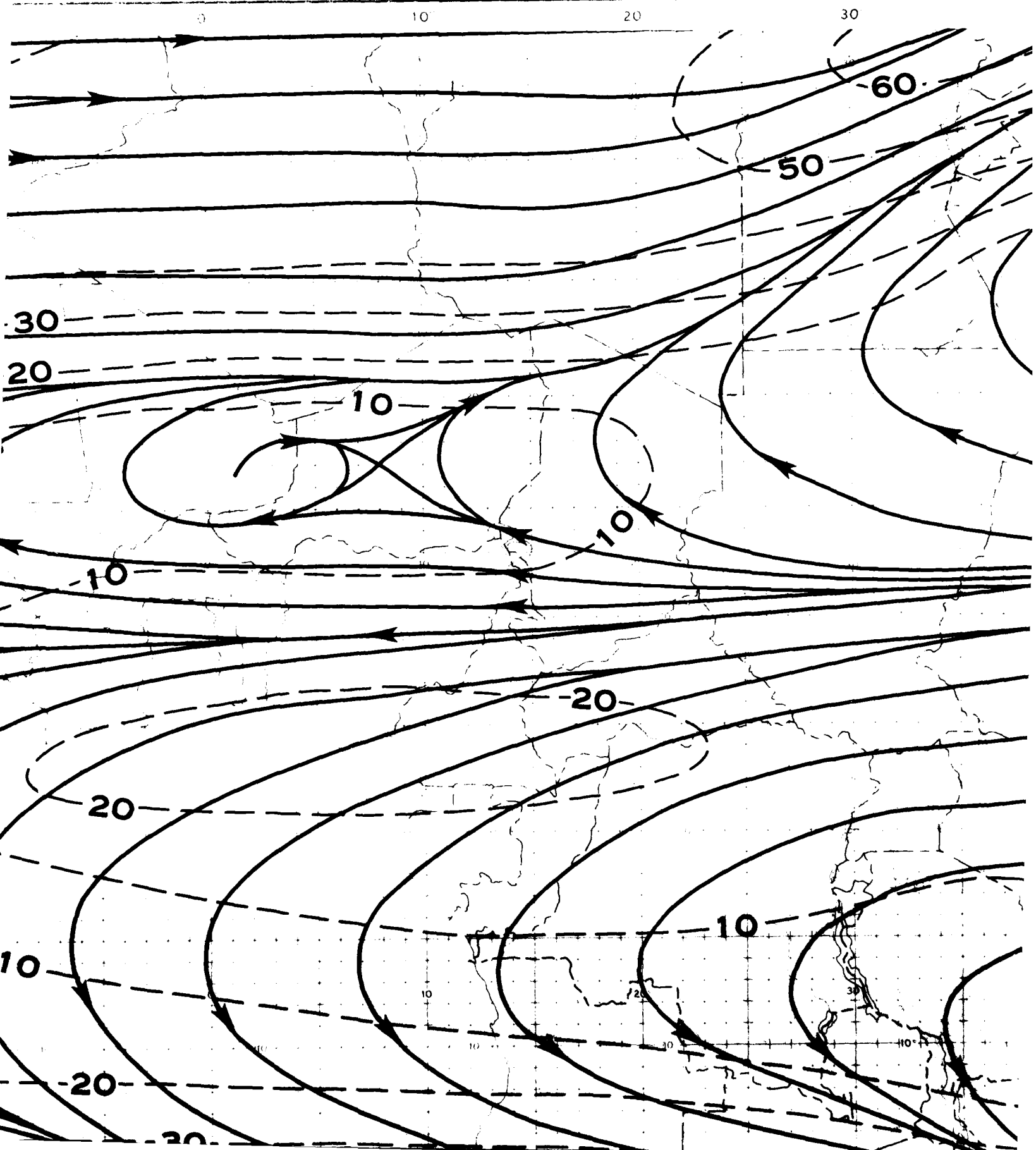


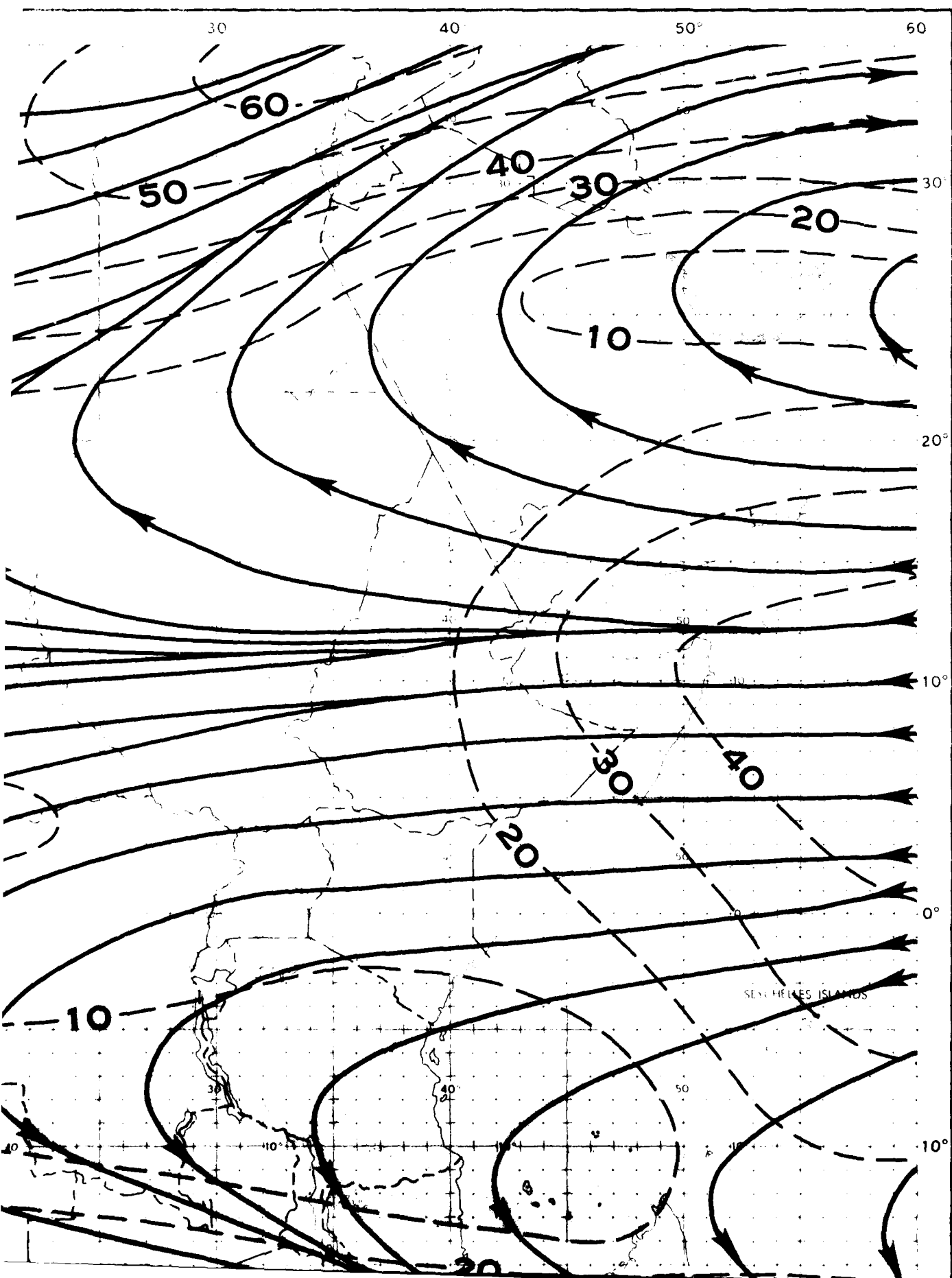


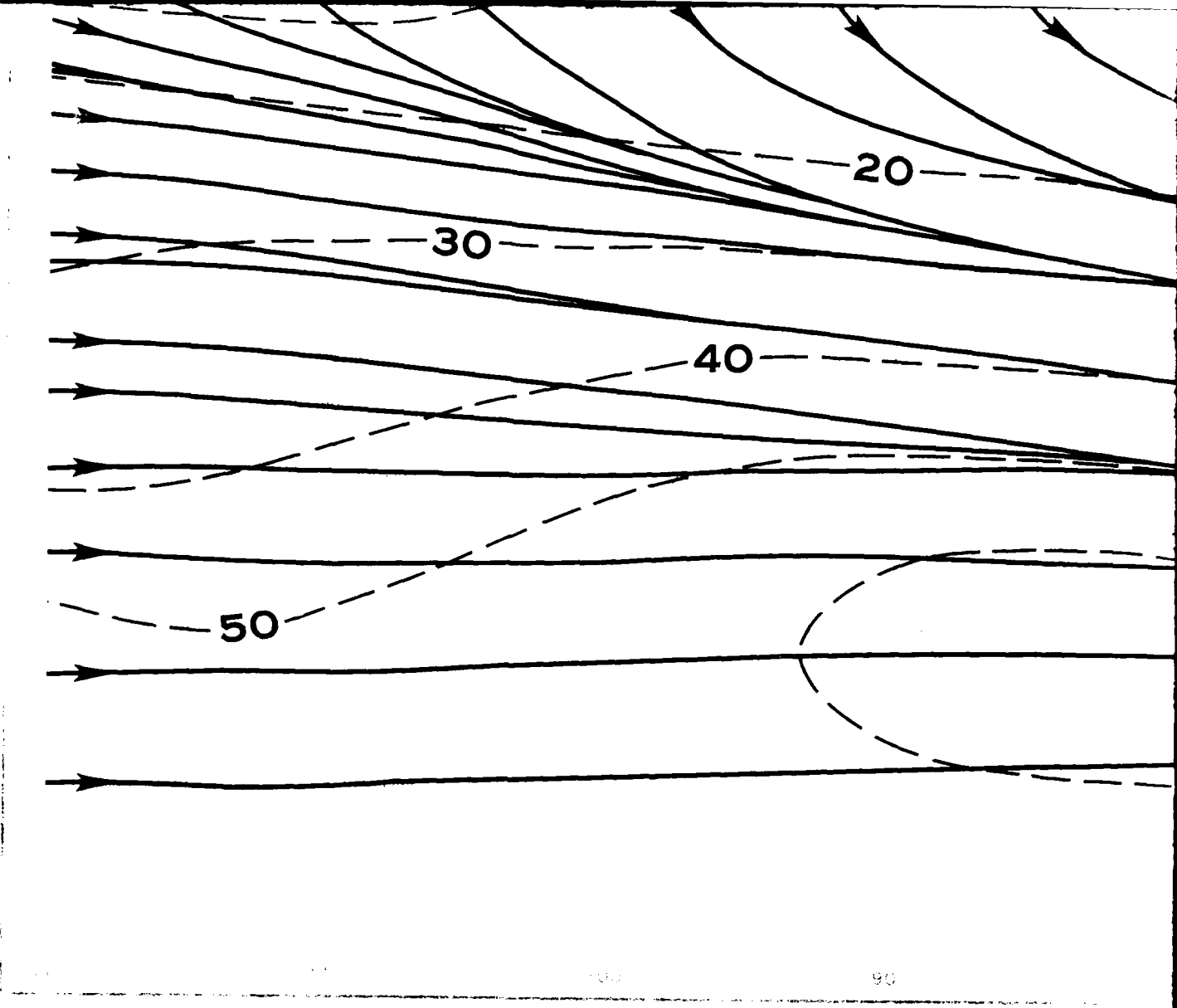
# L WINDS over GLOBAL TROPICS



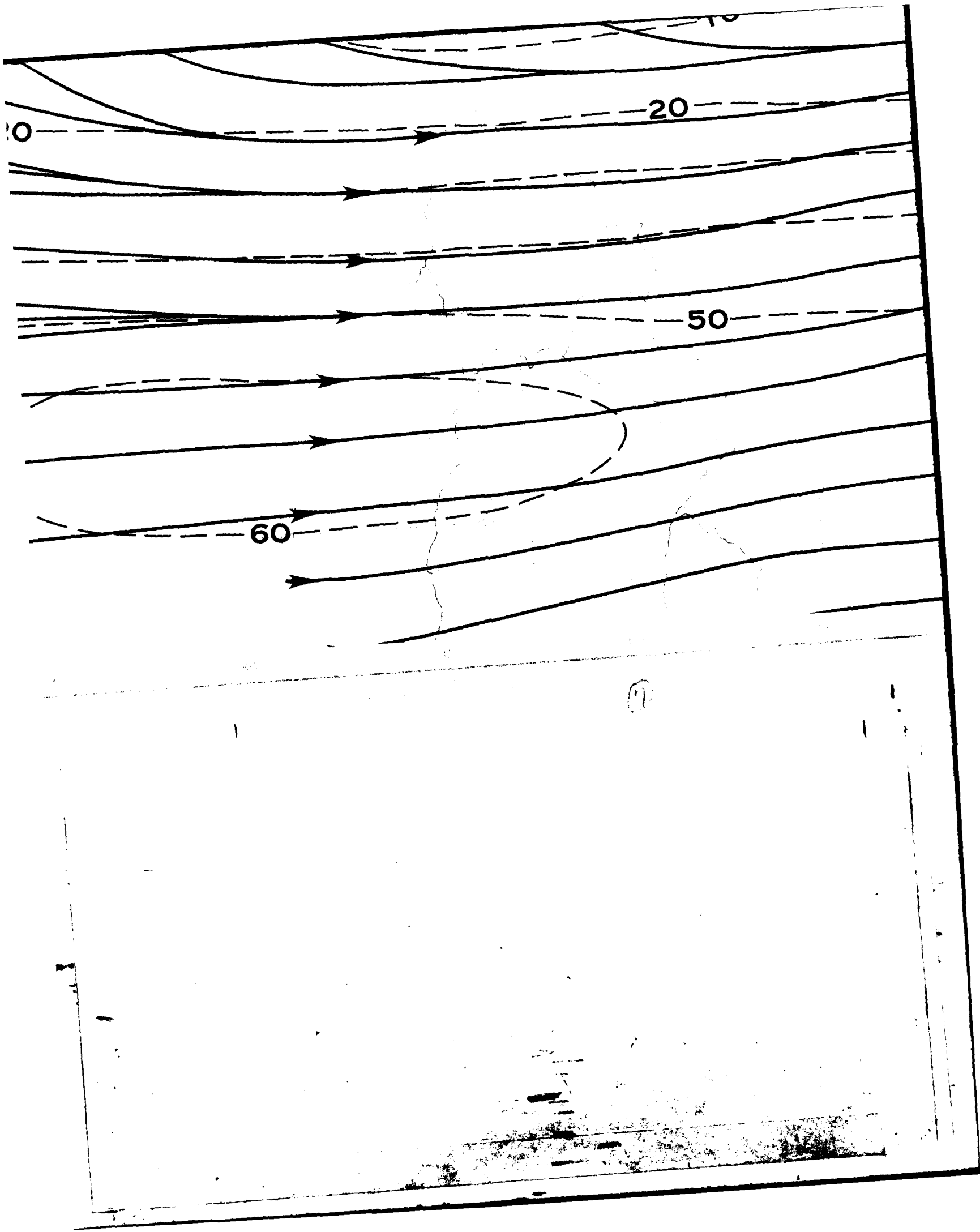
# PICS - JUNE 200mb

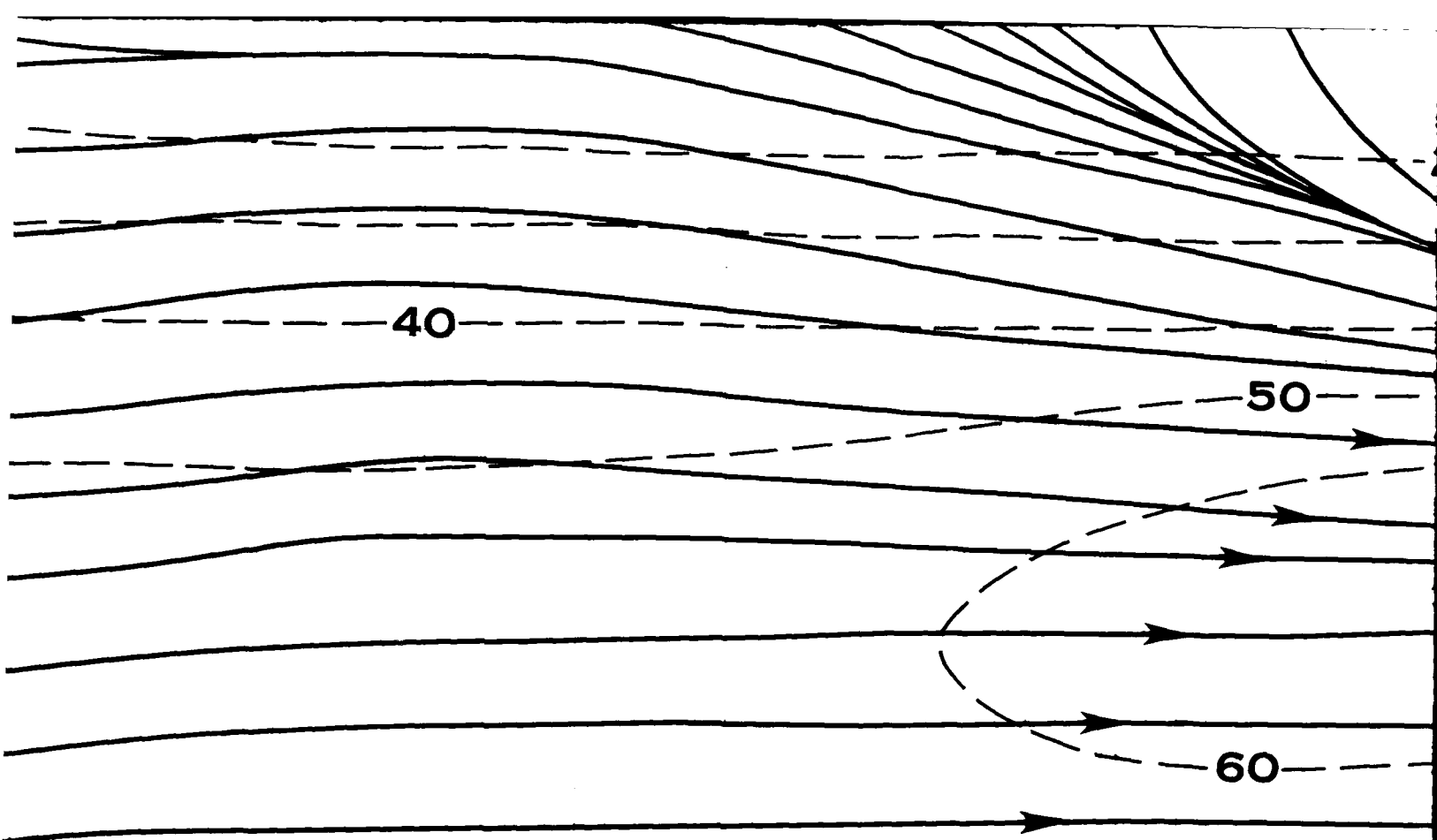






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1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

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1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

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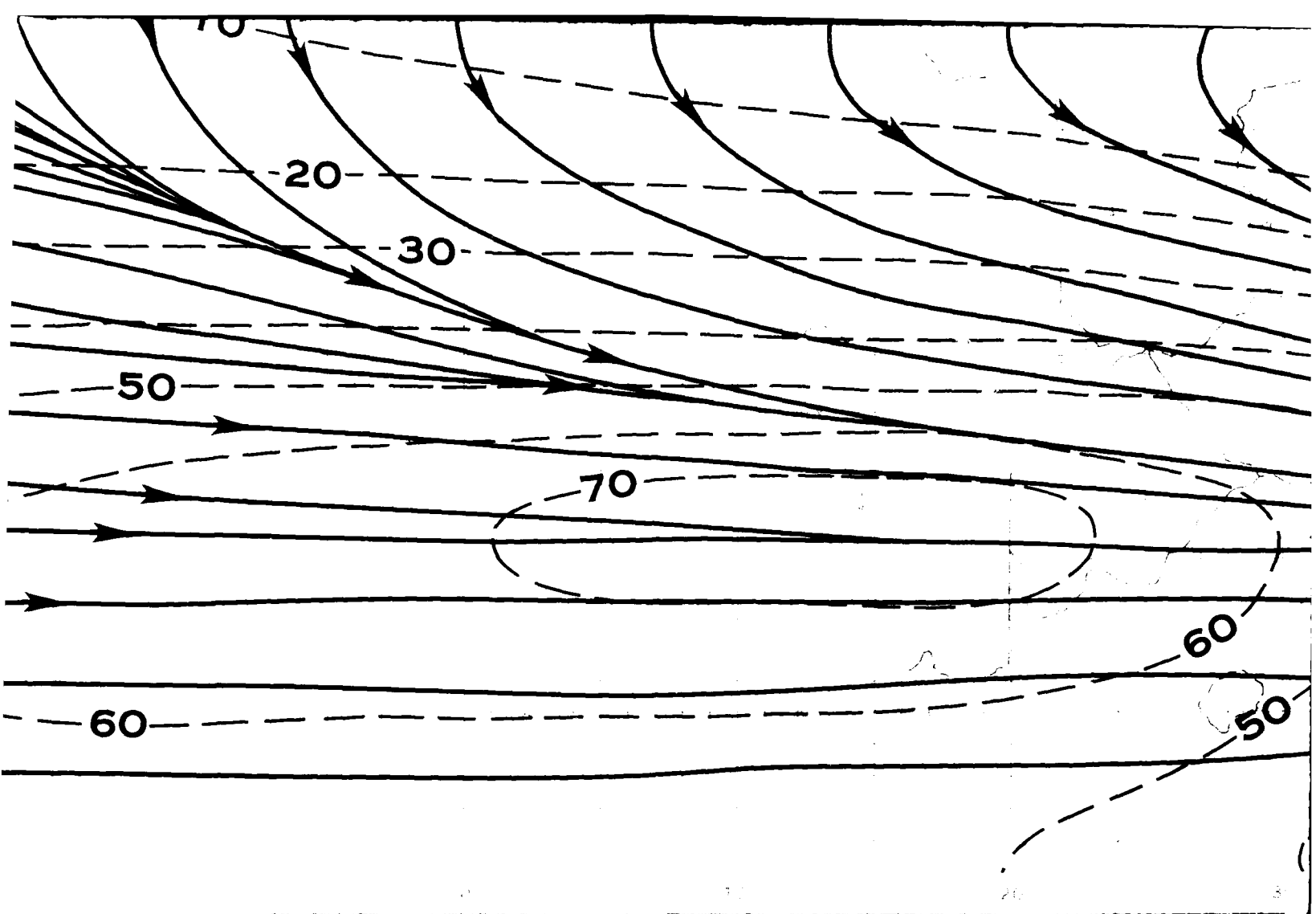
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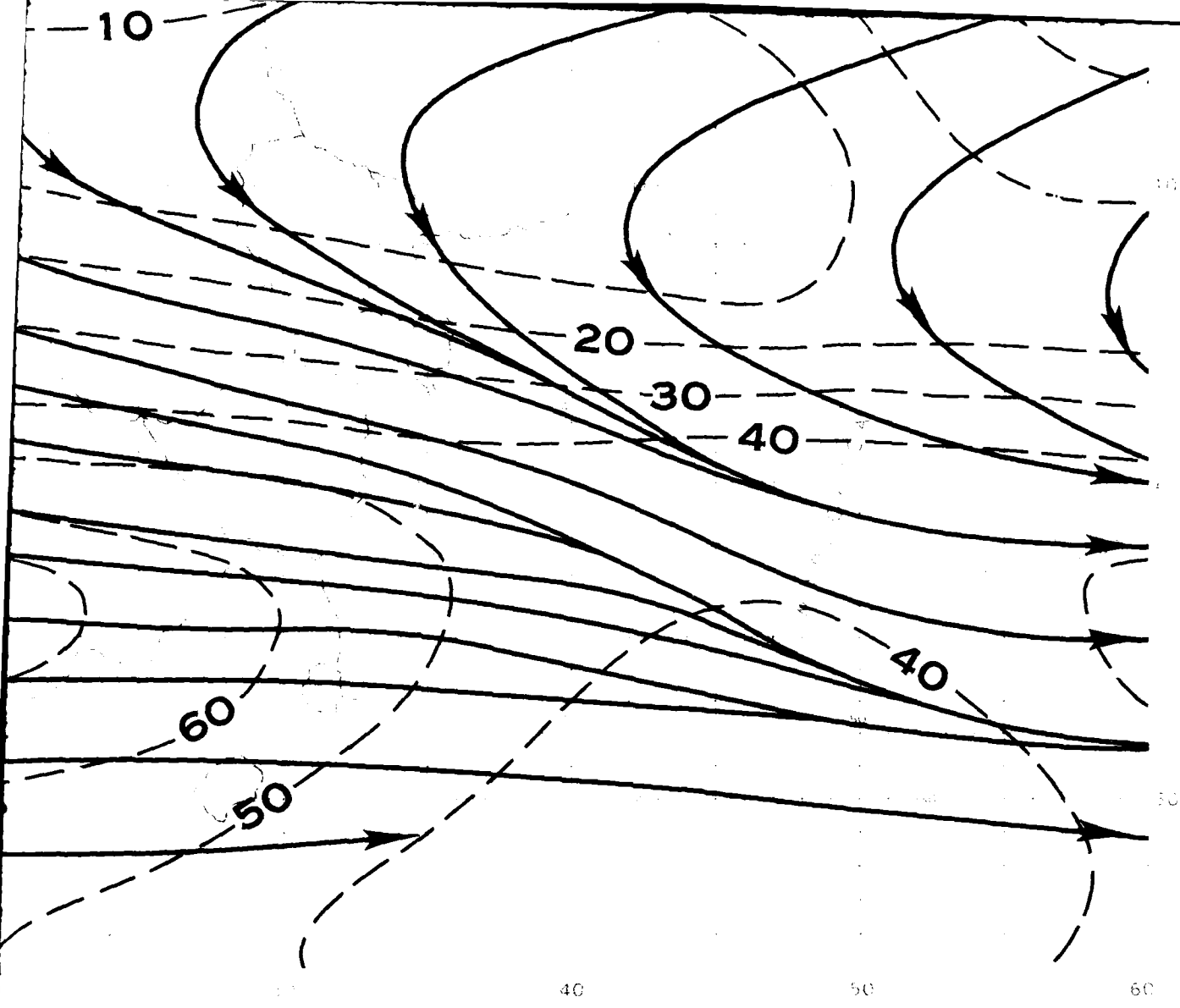
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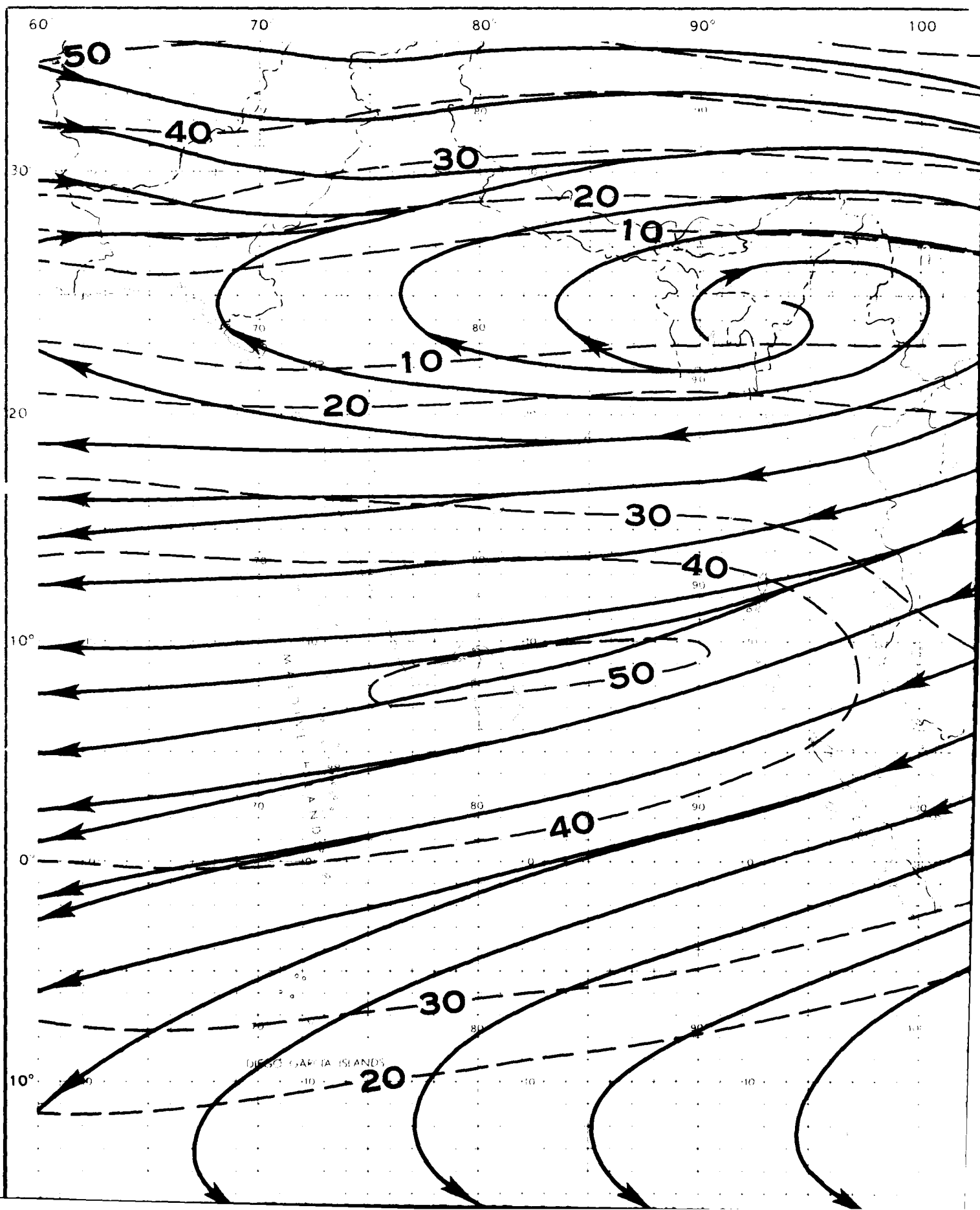
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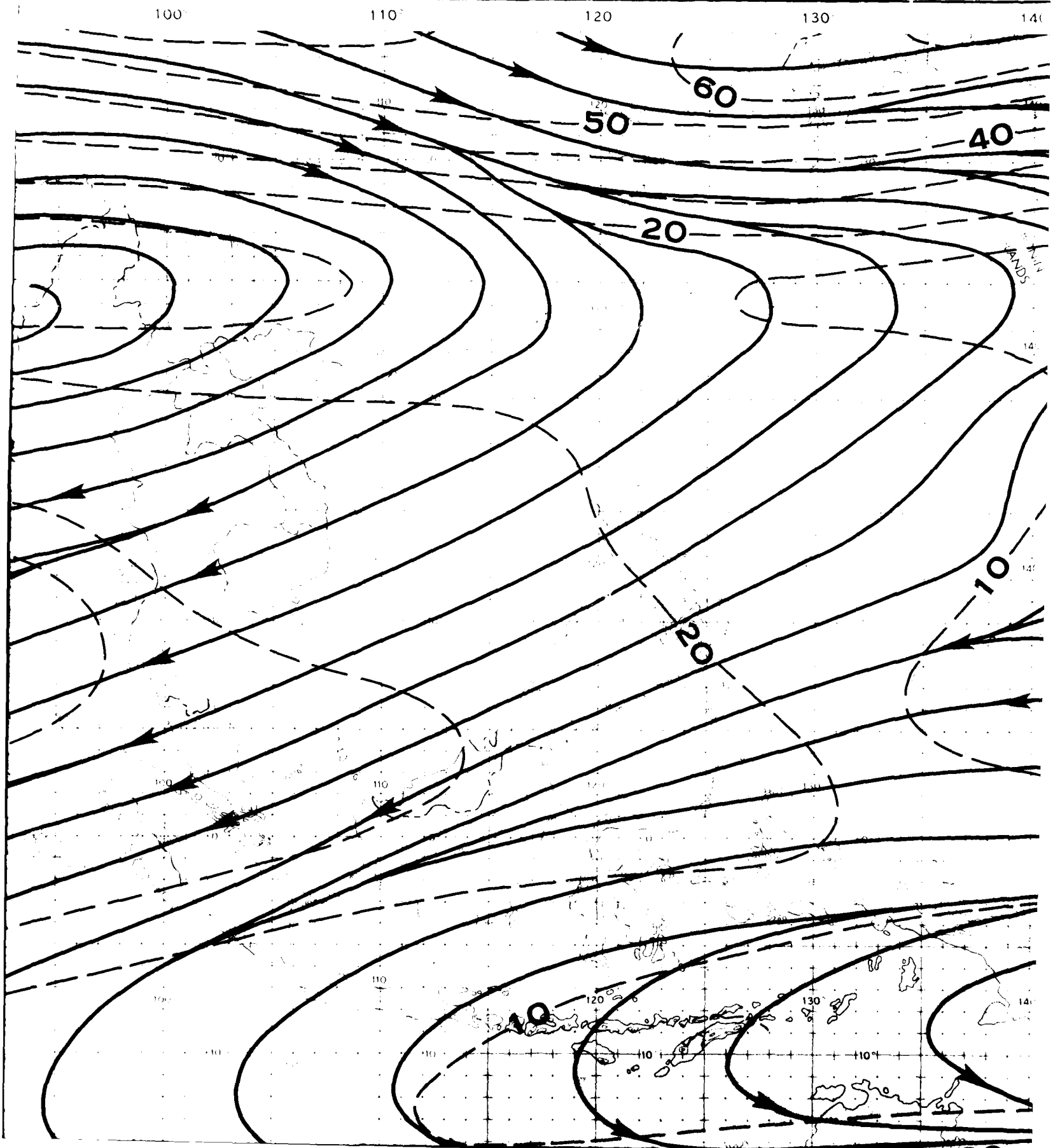


MULW-206W

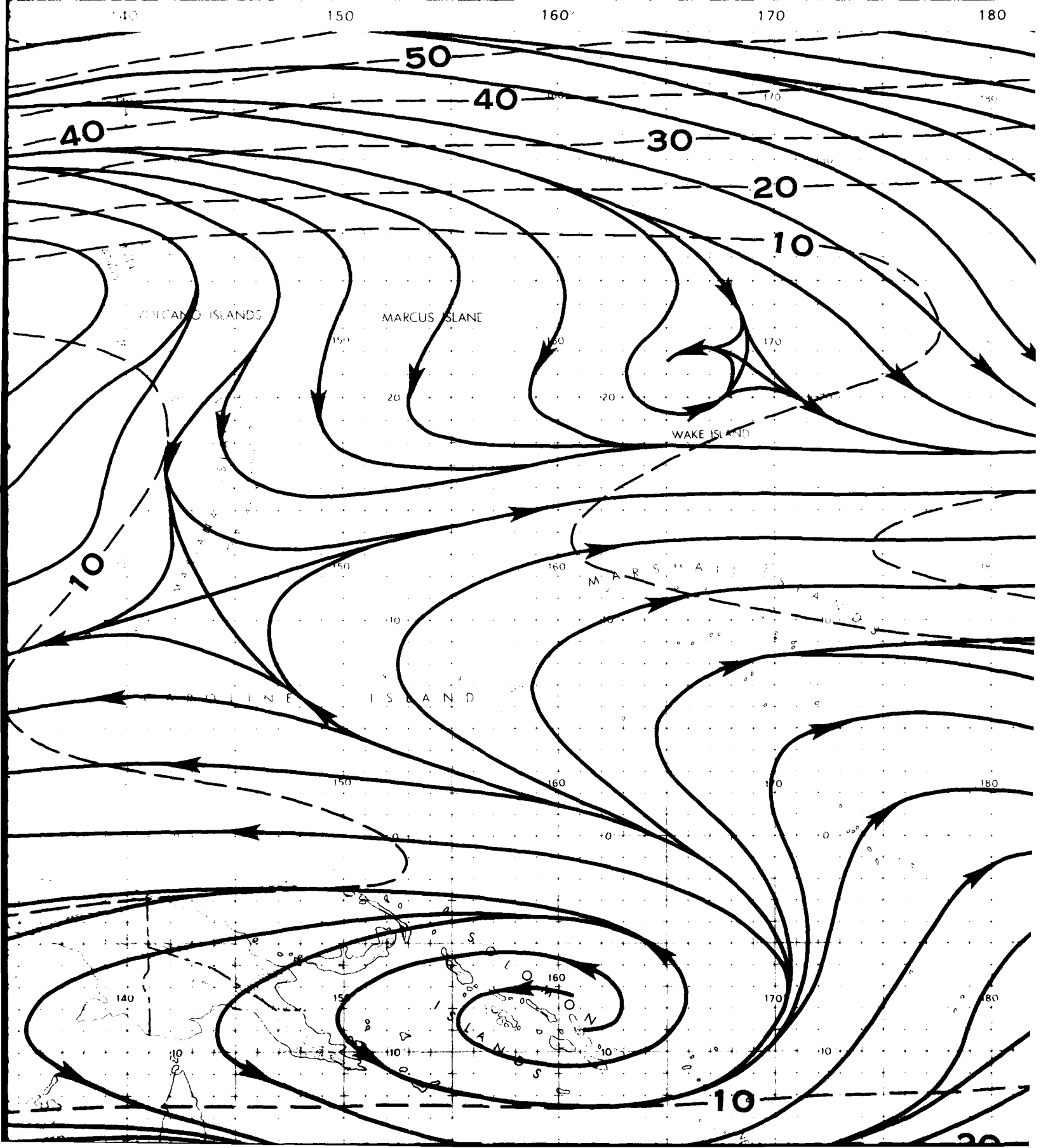




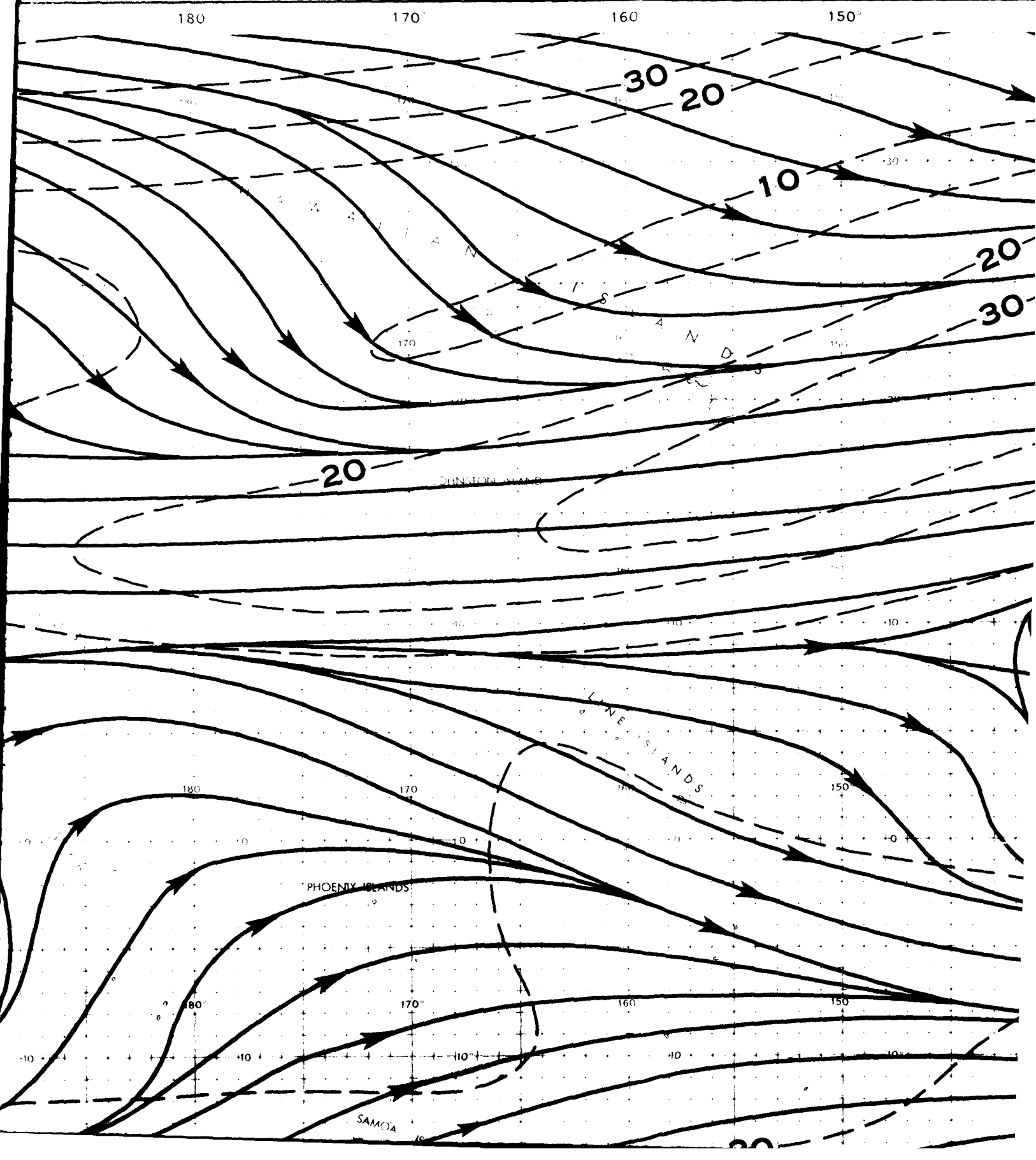
# MEAN UPPER LEVEL WIN

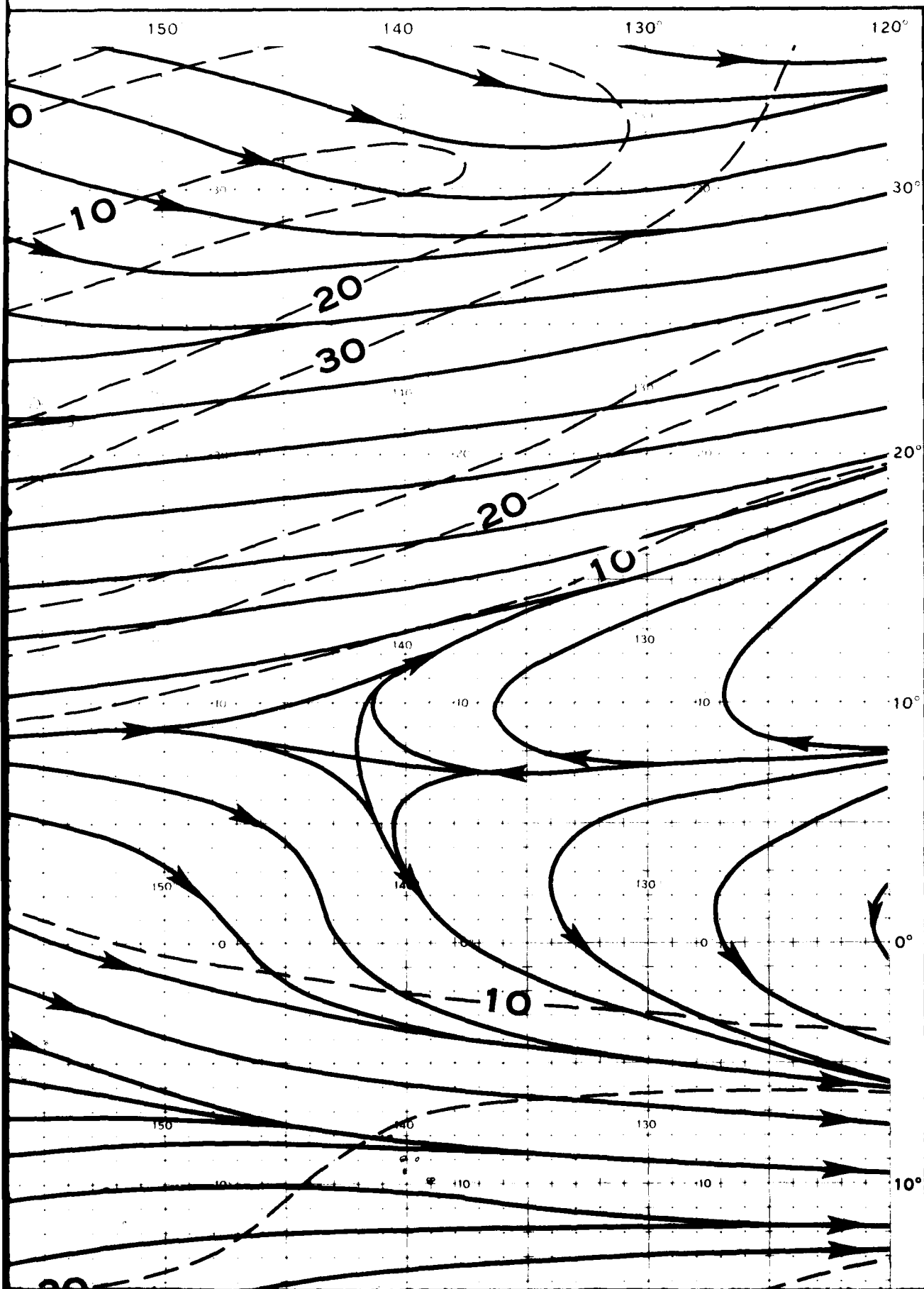


# WINDS over GLOBAL TROPICS - J



# ICS - JUNE 200mb





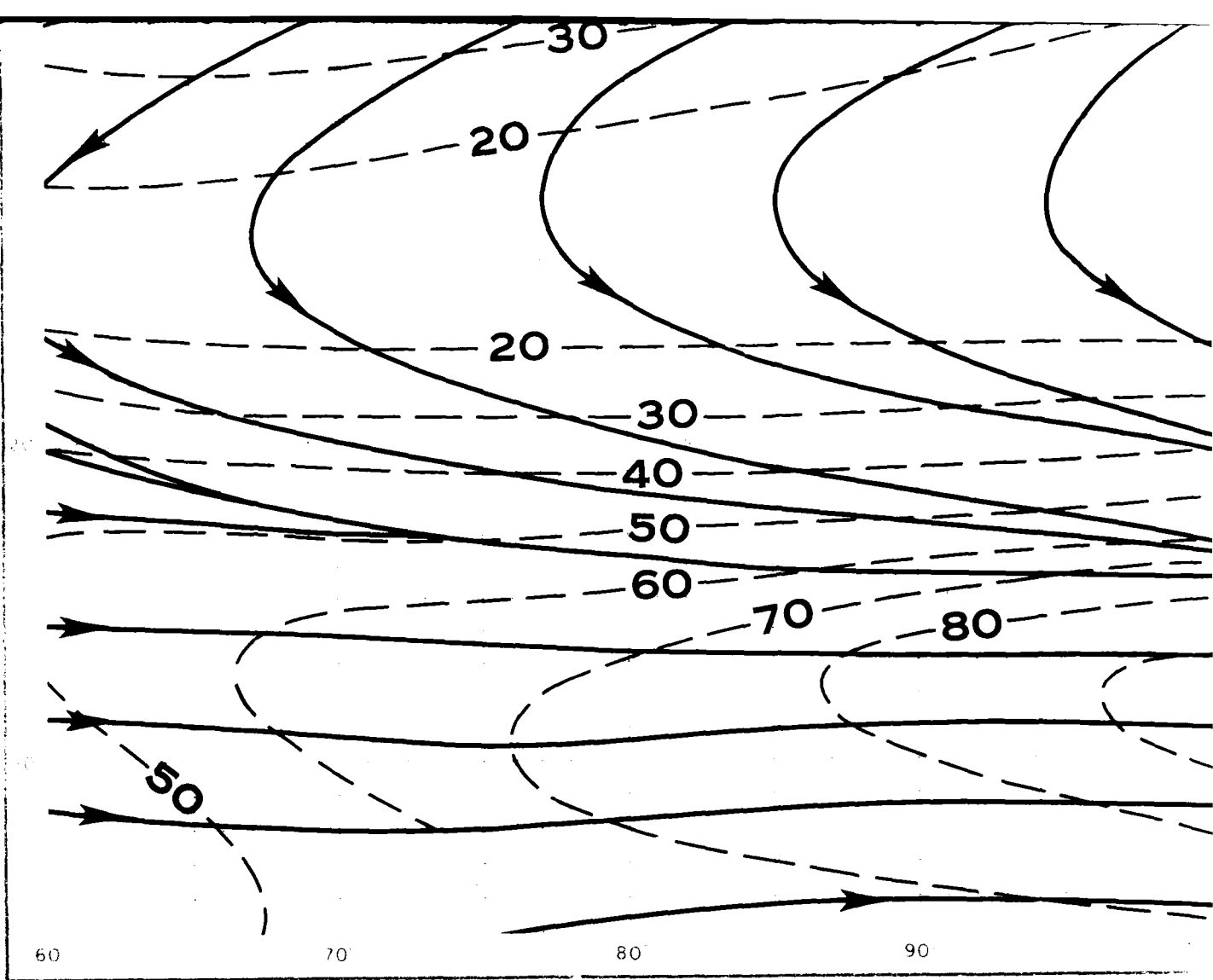
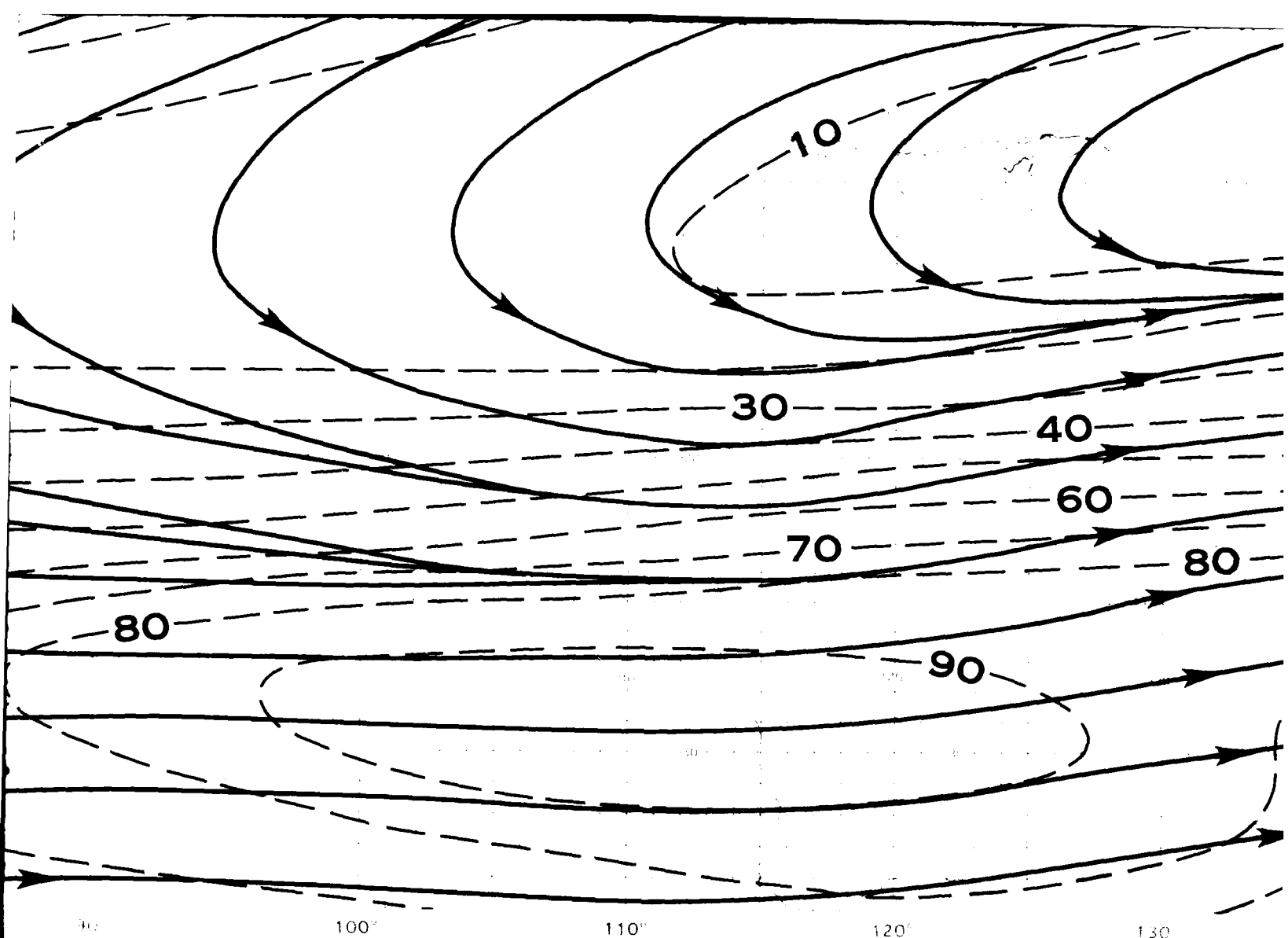


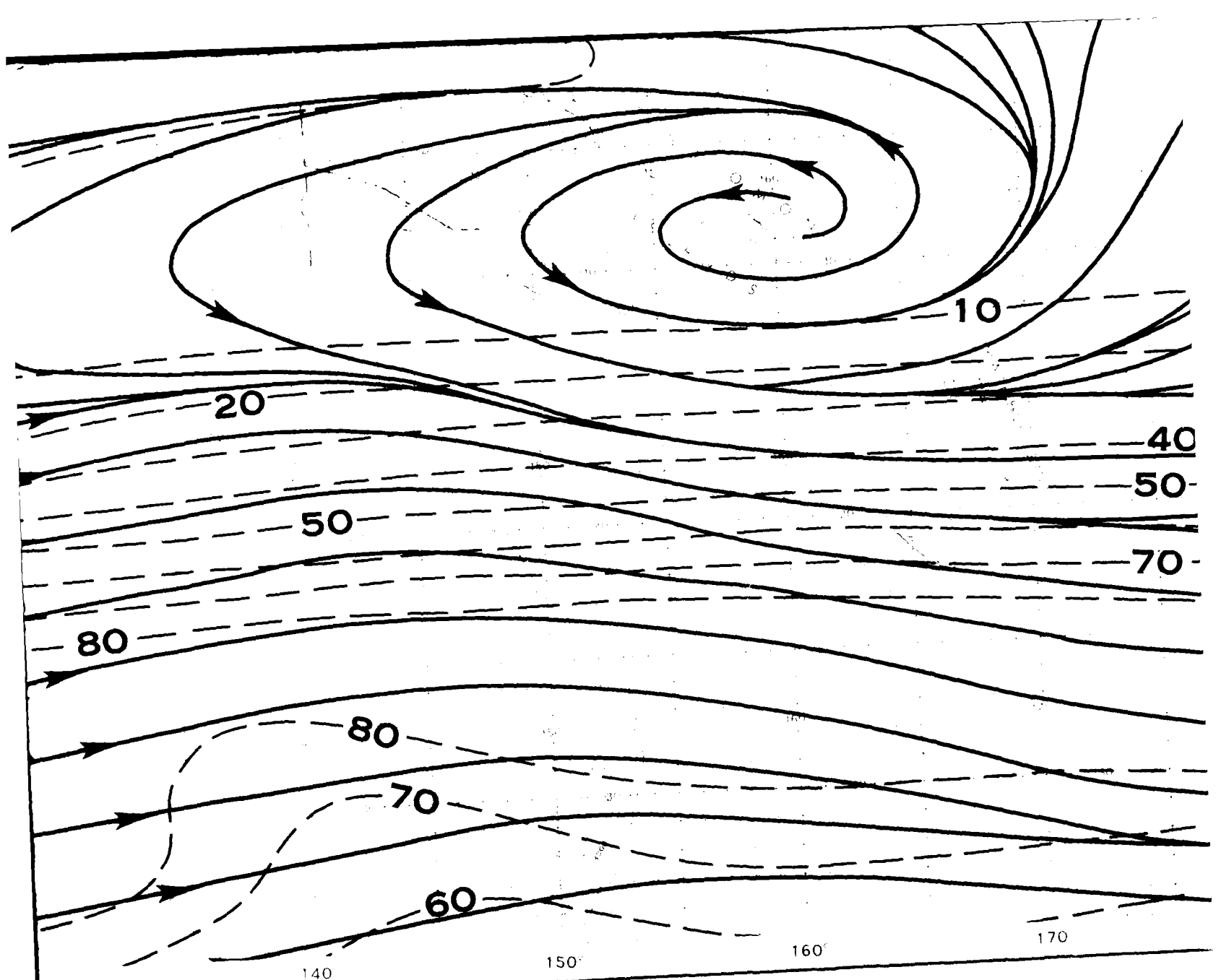
FIG. 1. The contour map of the function  $u(x, y)$  in the domain  $D$  (the region bounded by the dashed line) for the problem of the steady-state heat conduction in the half-space  $y \geq 0$  with the boundary conditions  $u|_{y=0} = 0$  and  $u|_{x=0} = 1$ .

FIG. 2. The contour map of the function  $v(x, y)$  in the domain  $D$  (the region bounded by the dashed line) for the problem of the steady-state heat conduction in the half-space  $y \geq 0$  with the boundary conditions  $v|_{y=0} = 0$  and  $v|_{x=0} = 1$ .



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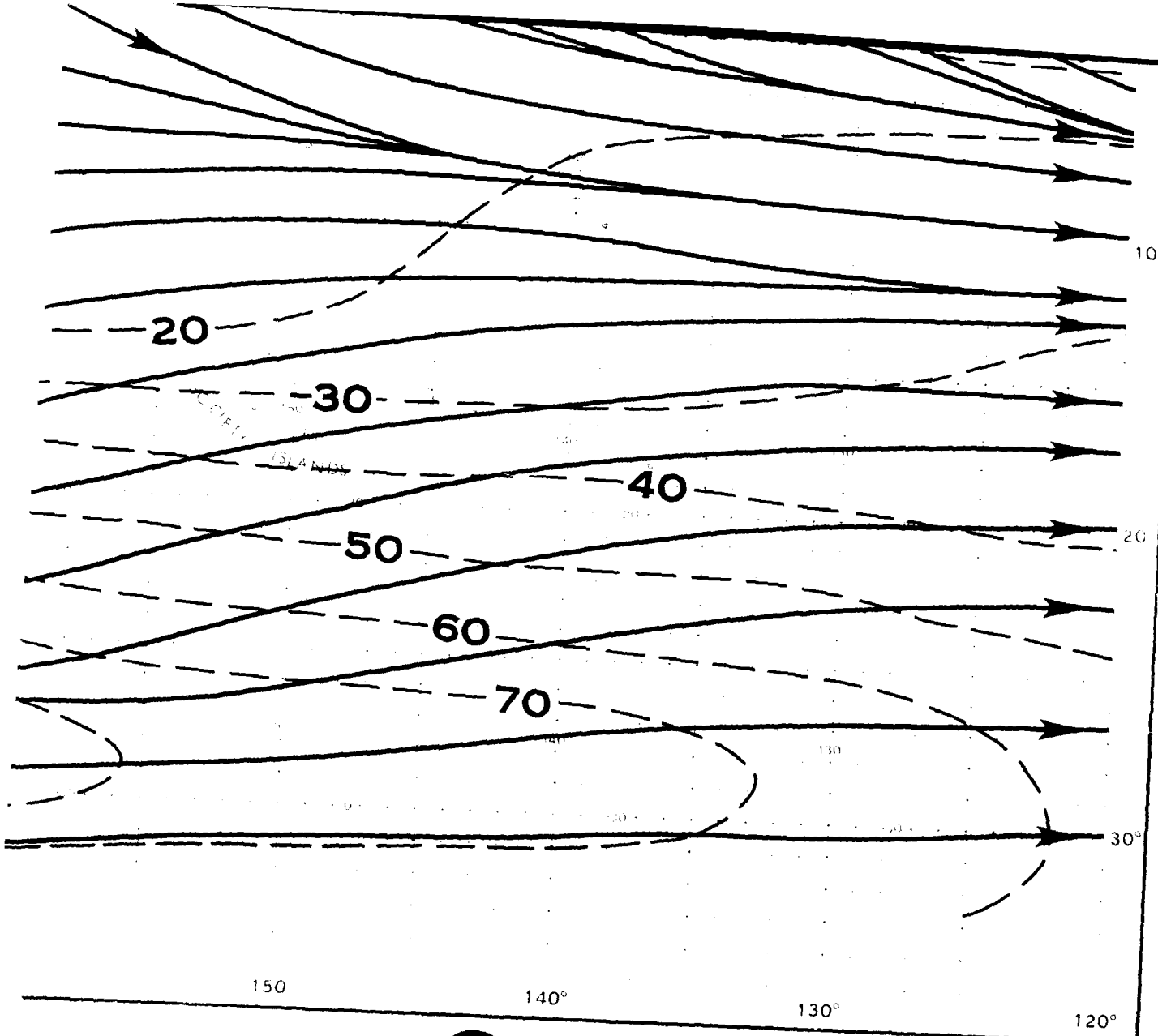
1 (7)



MERIDIAN PROJECTION  
SCALE 1:20,000,000  
TRUE AT 22.30N AND 22.30E



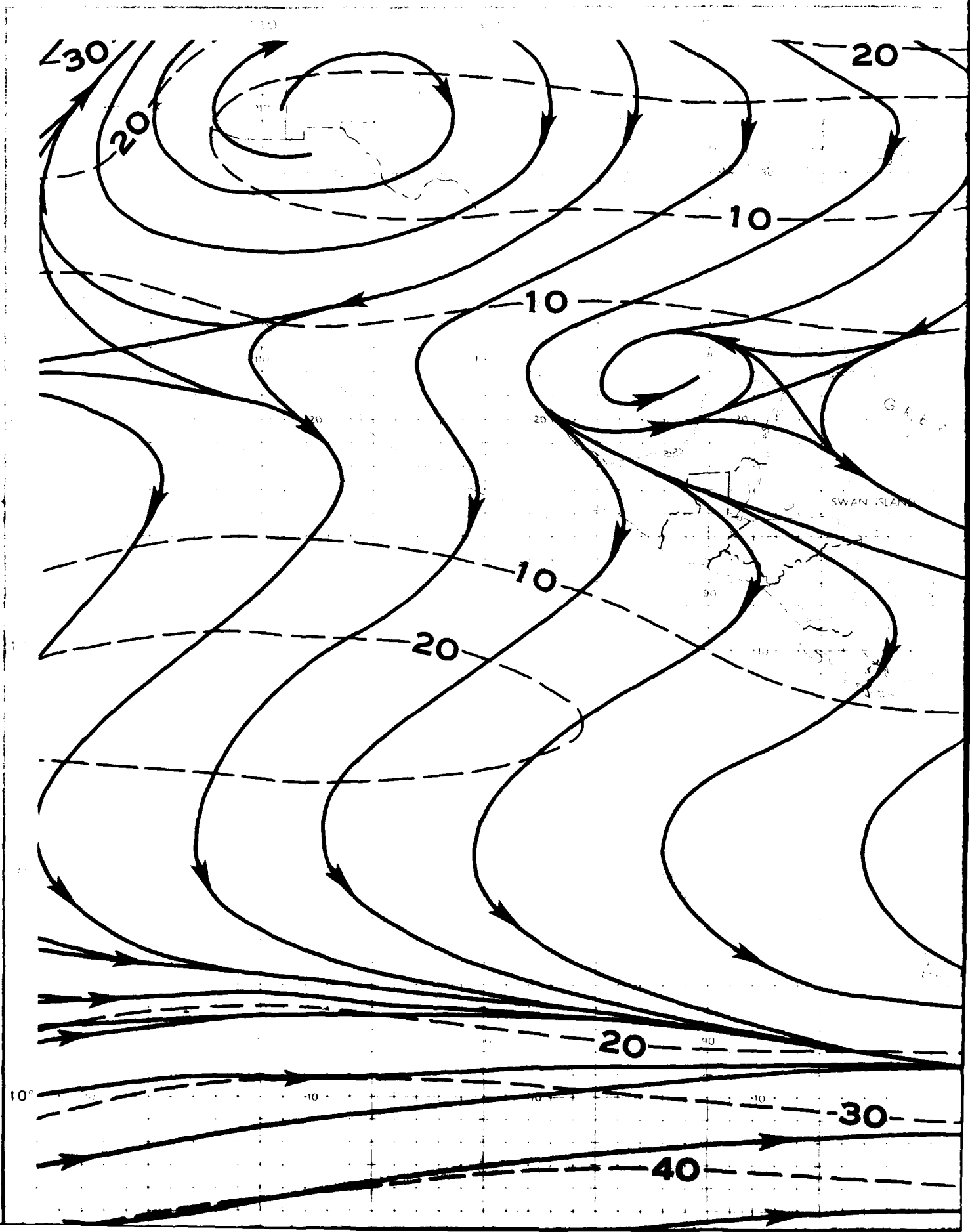




16

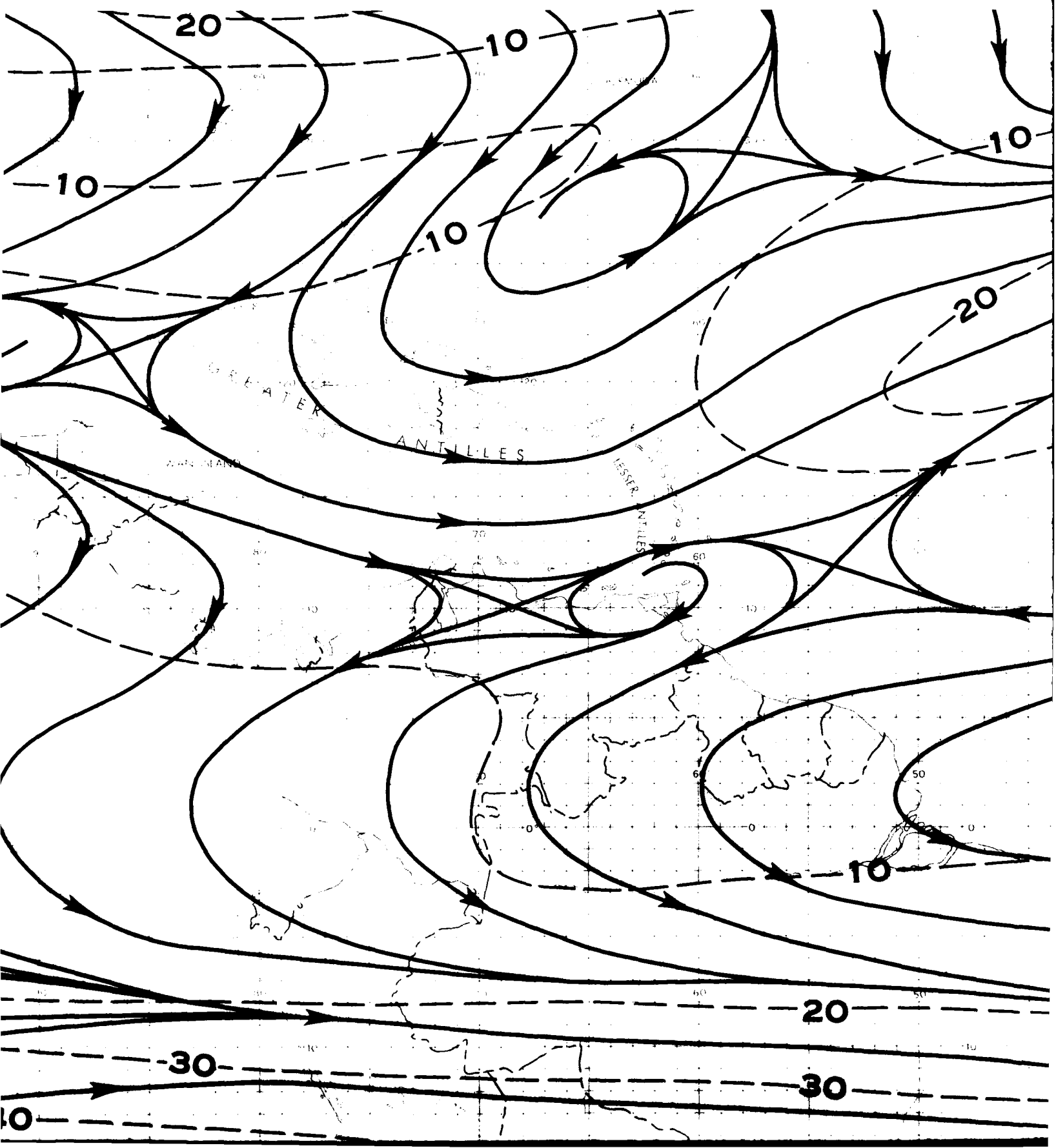
MULW-206E

1

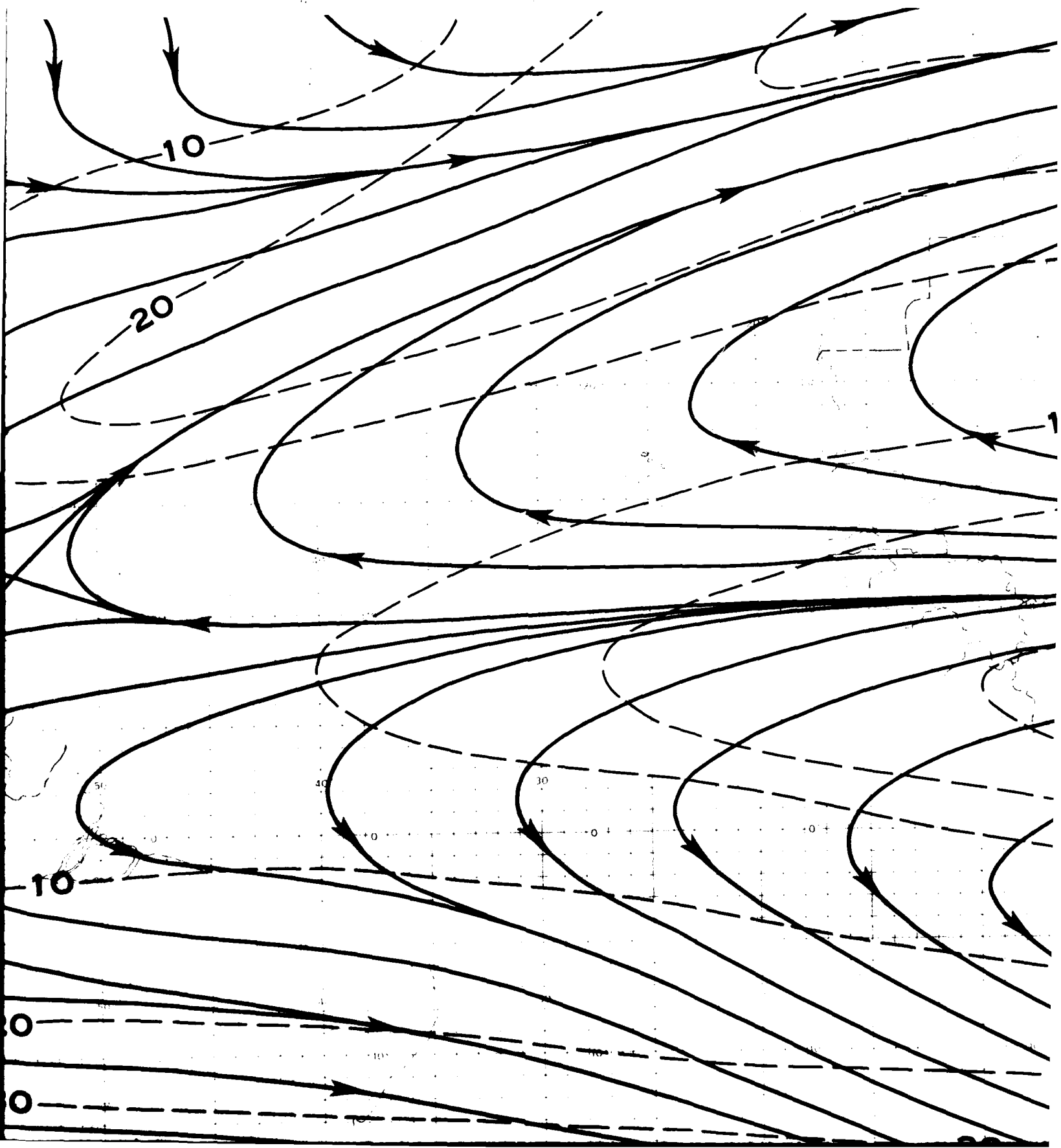


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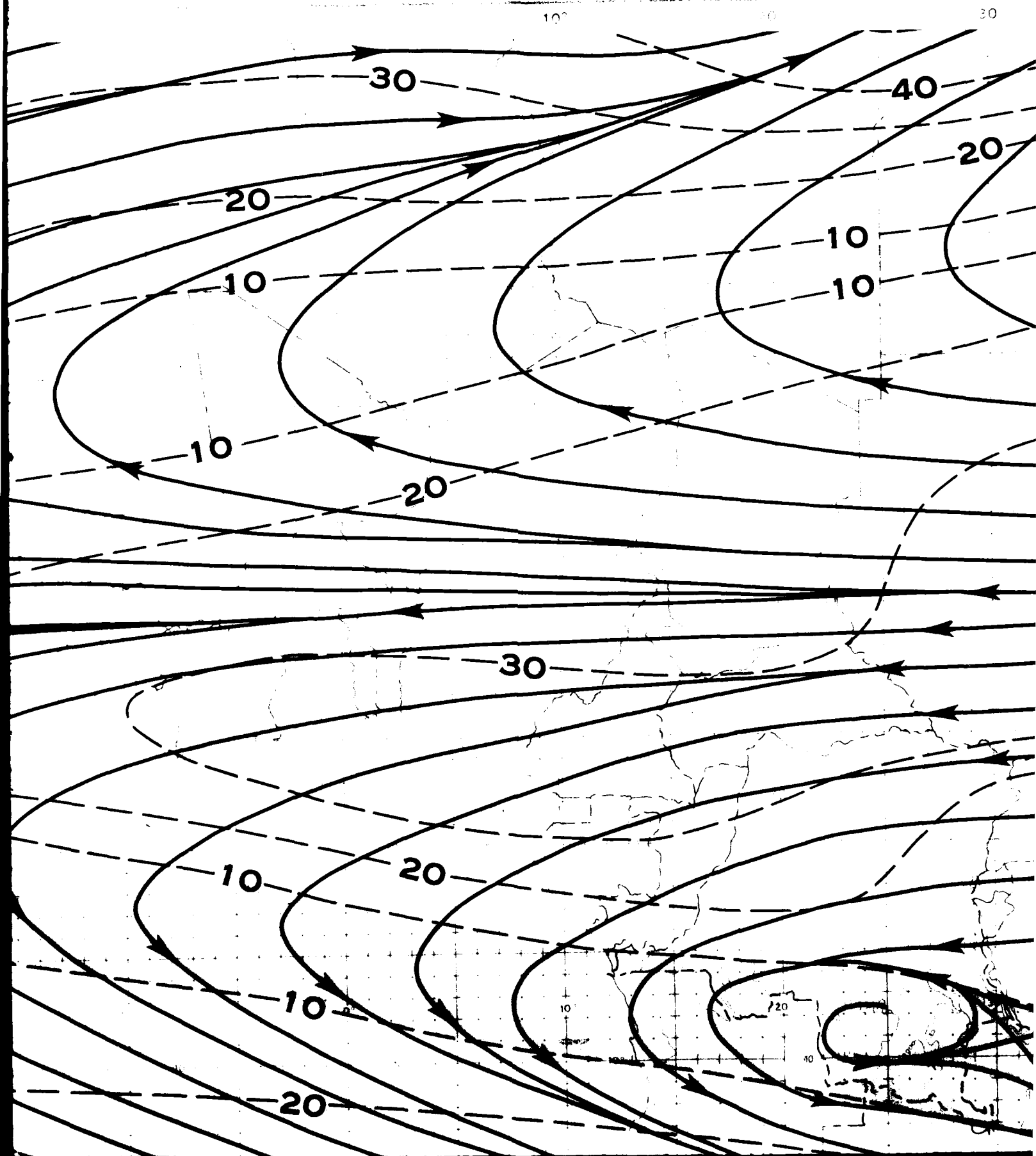
# MEAN UPPER LEVEL V

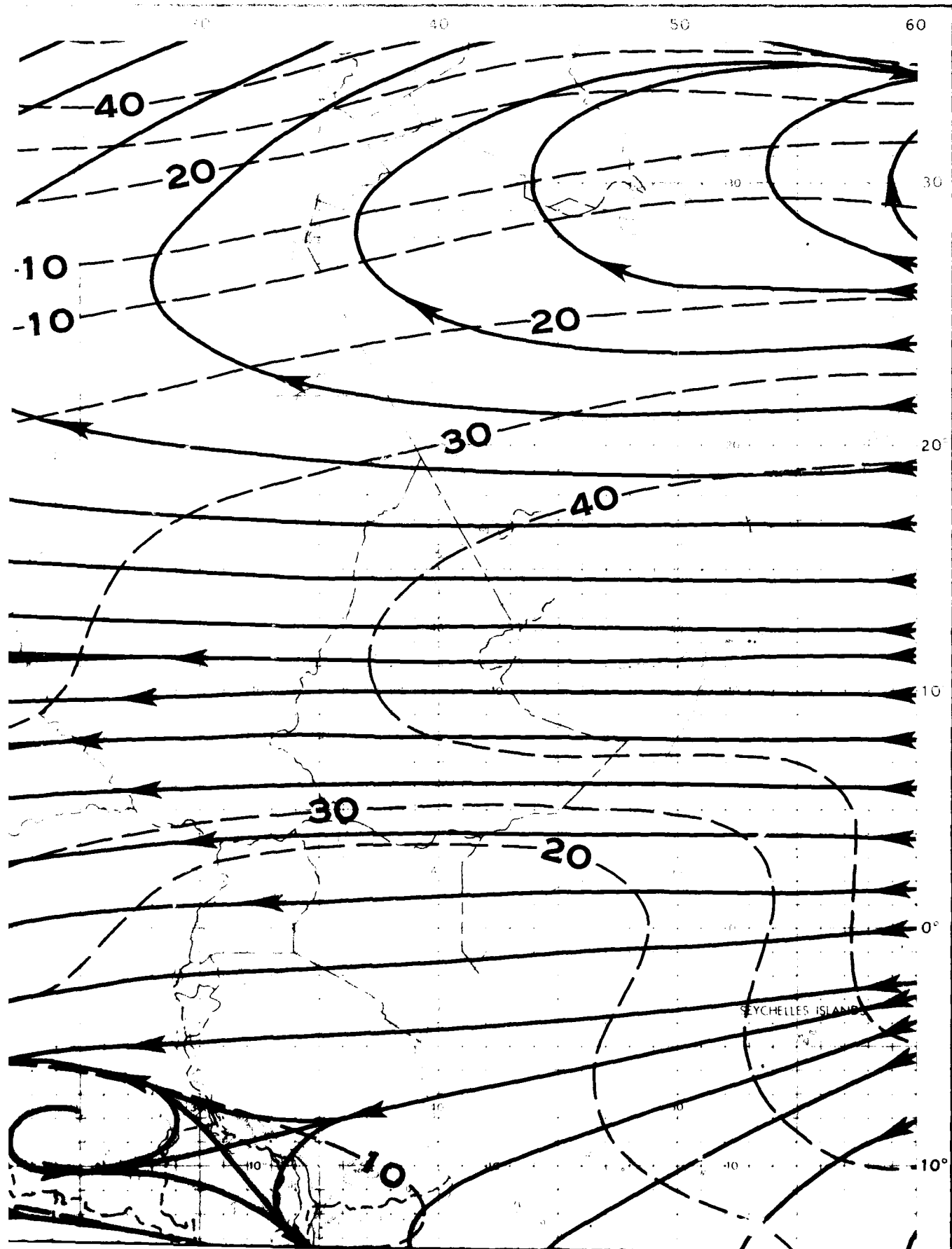


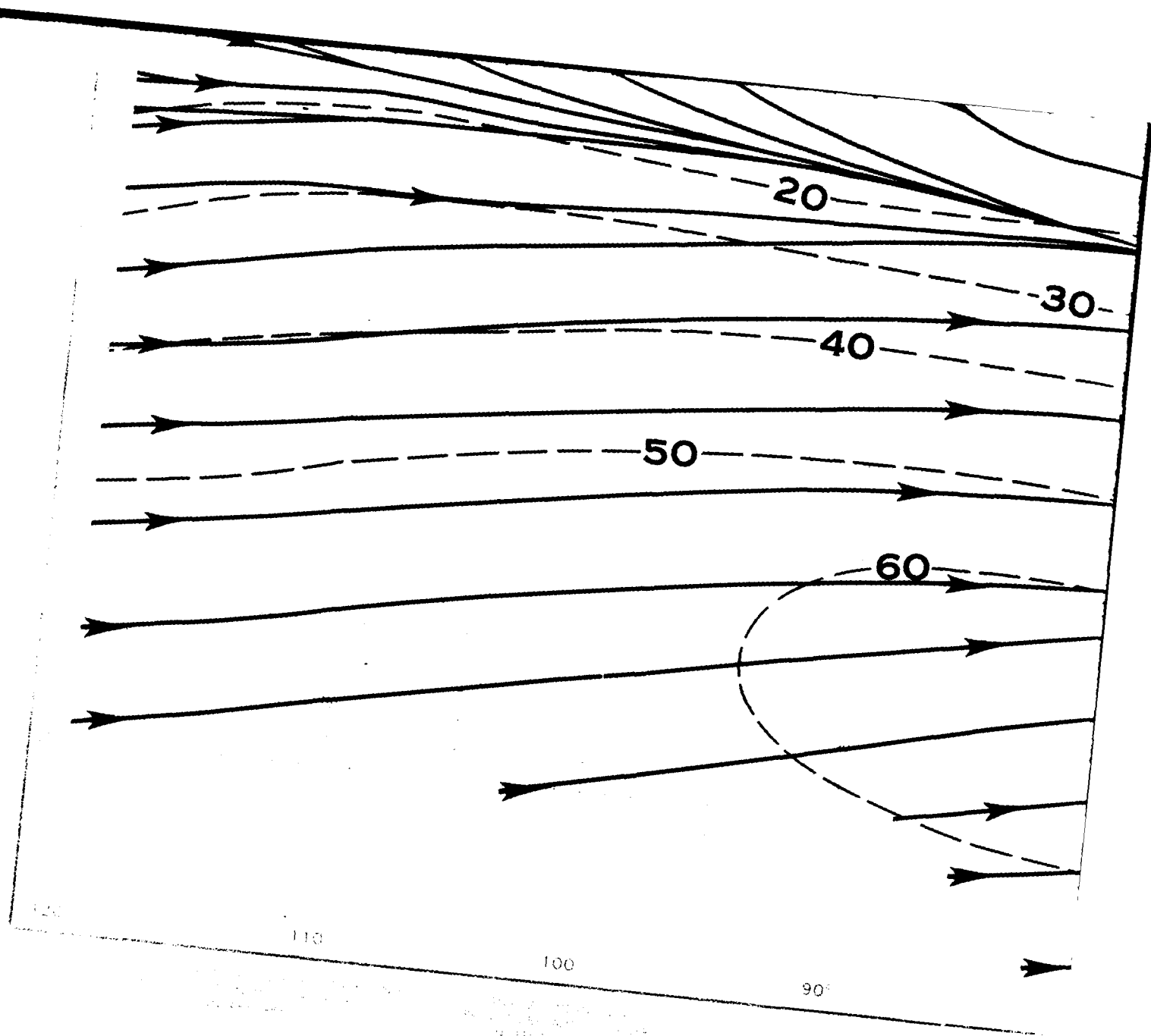
# EVEL WINDS over GLOBAL TROPI



# TROPICS - JULY 200mb







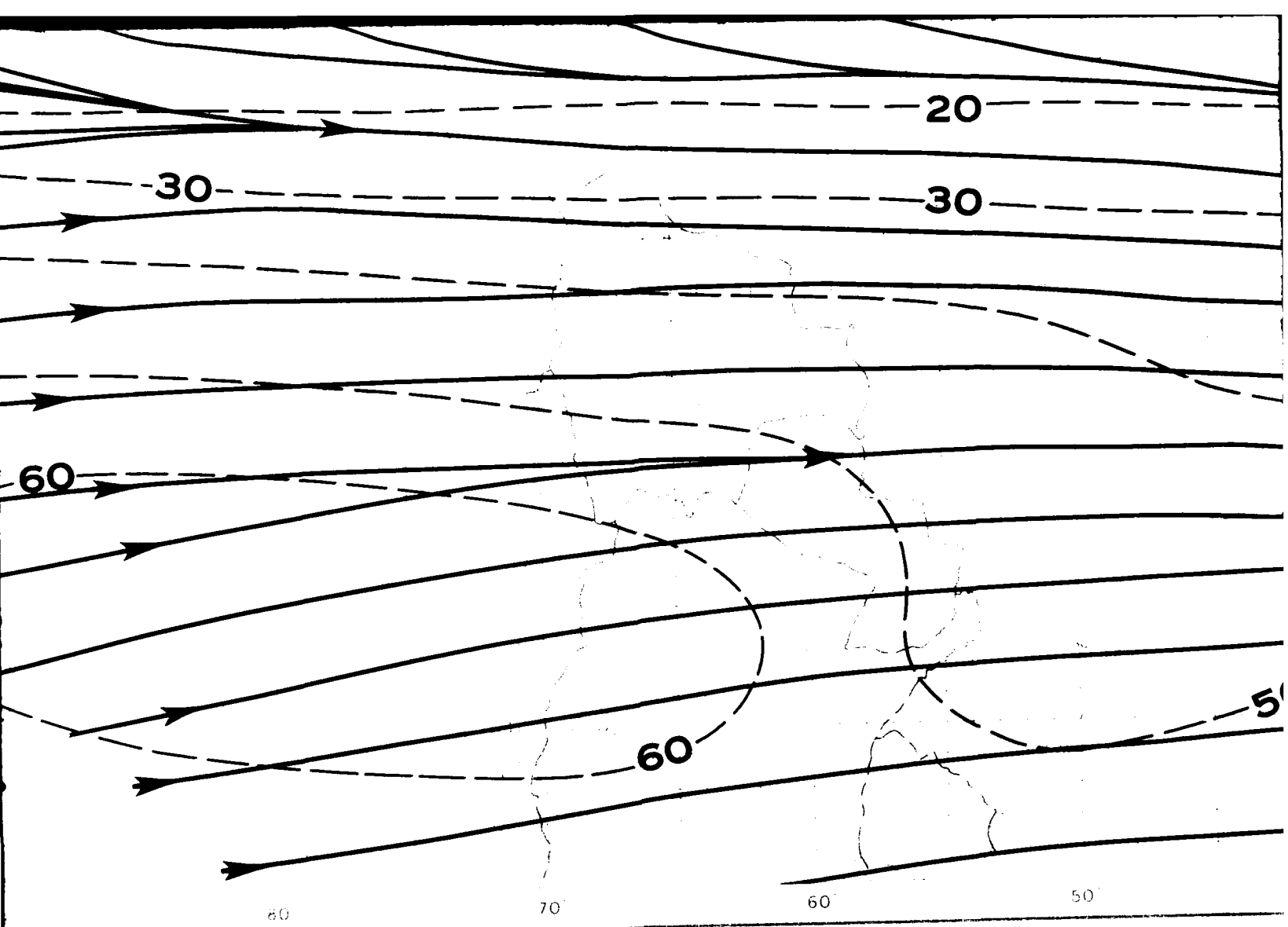
120

110

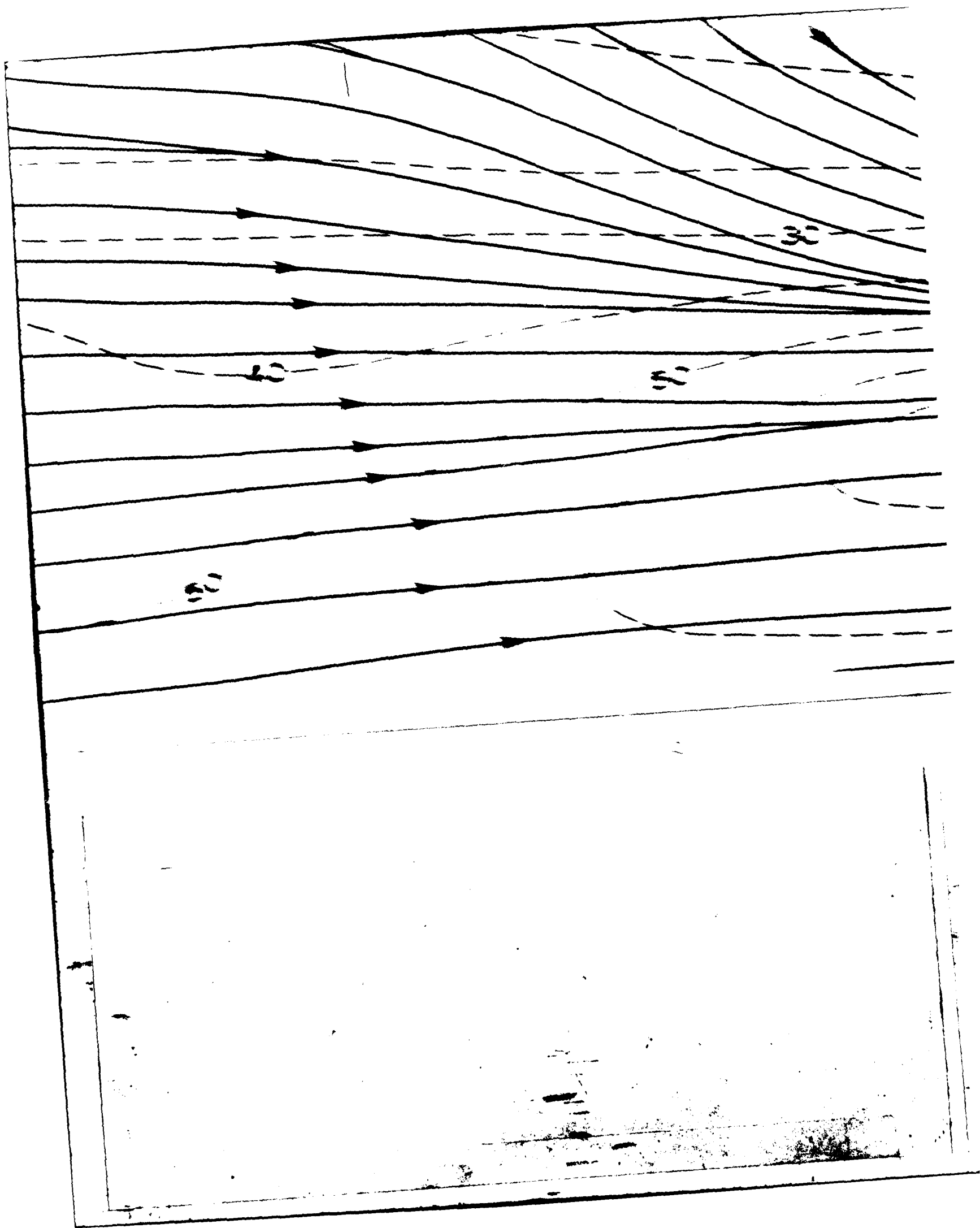
100

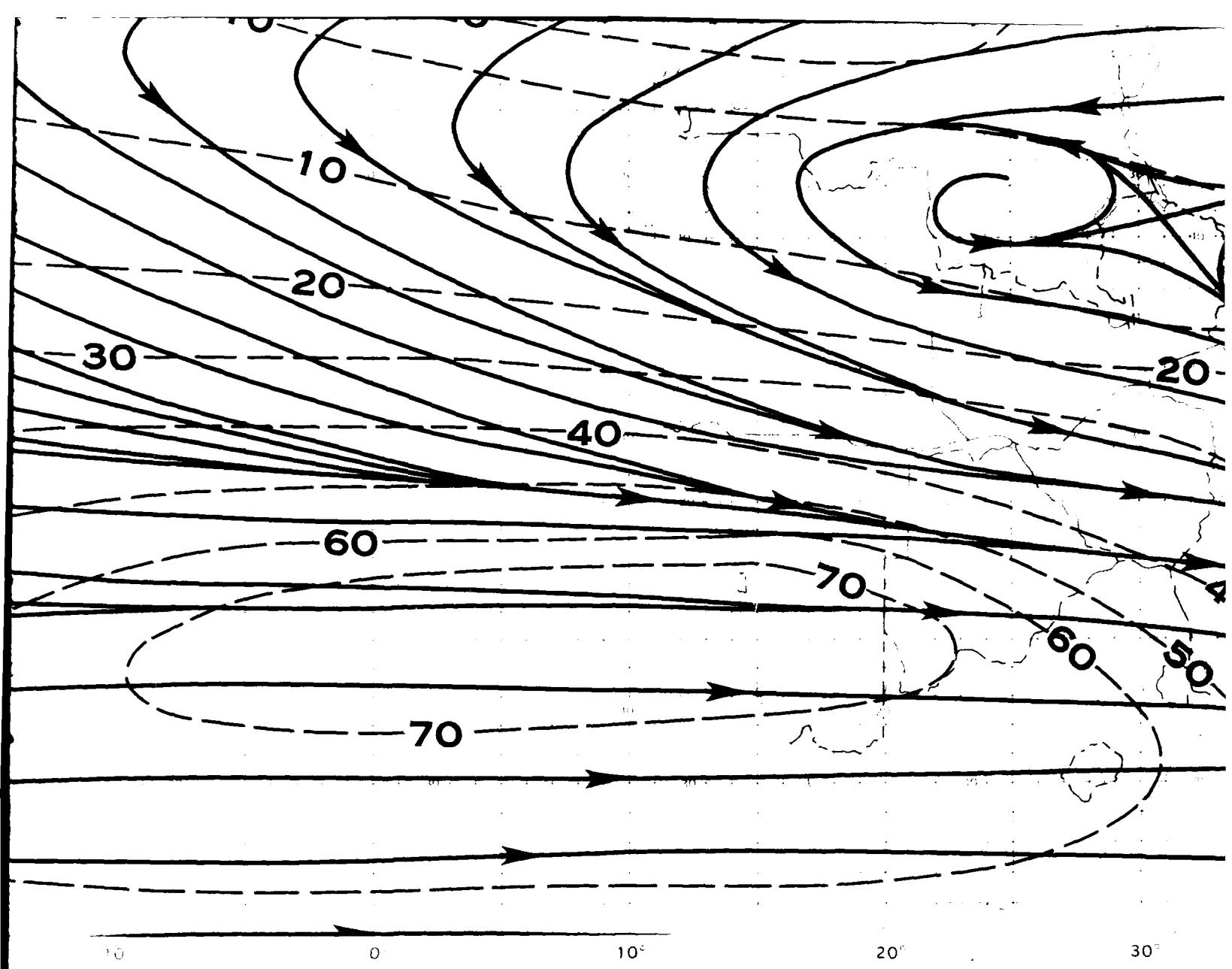
90°





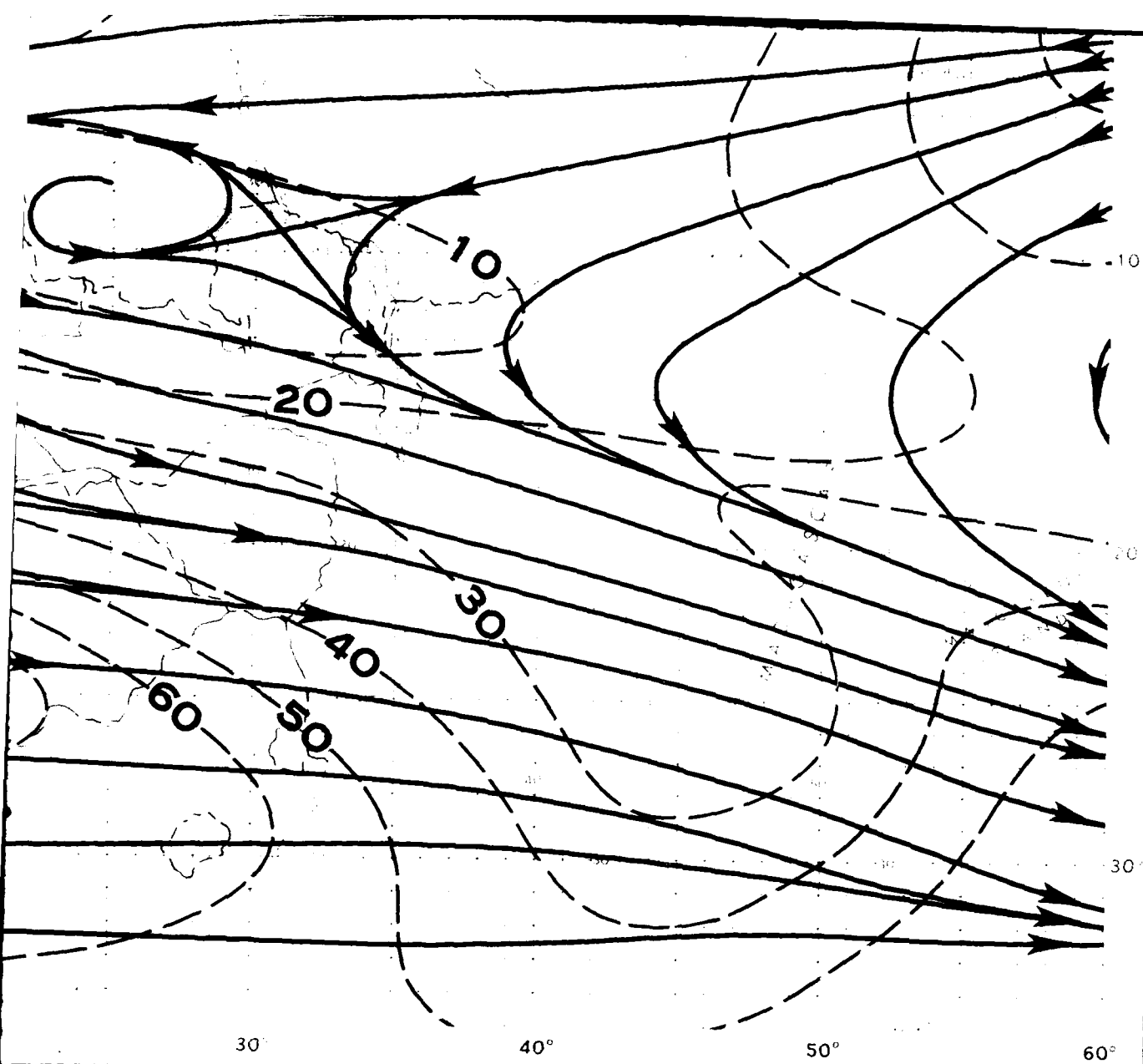
12





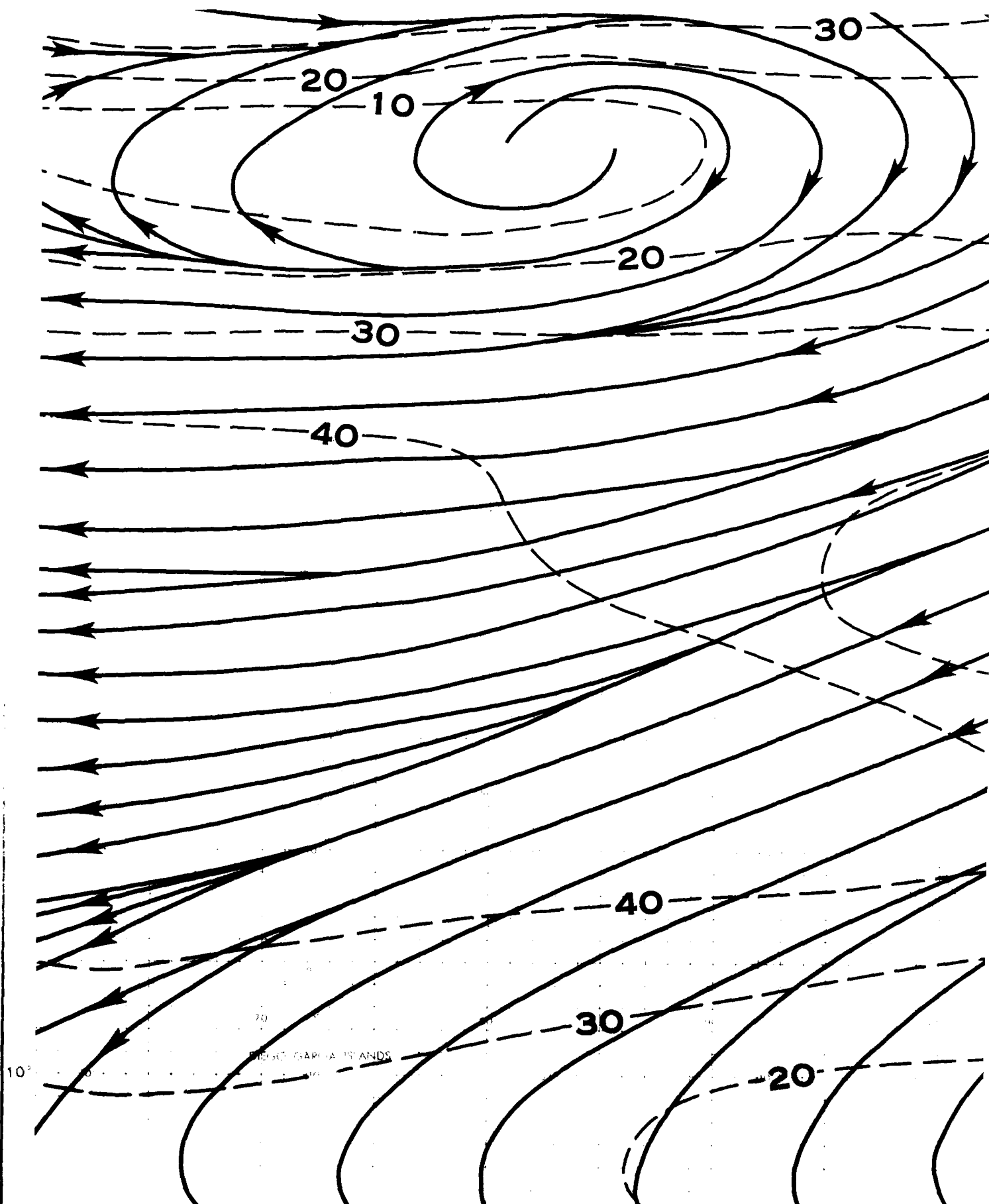
Produced by DMAAC/CR

(9)

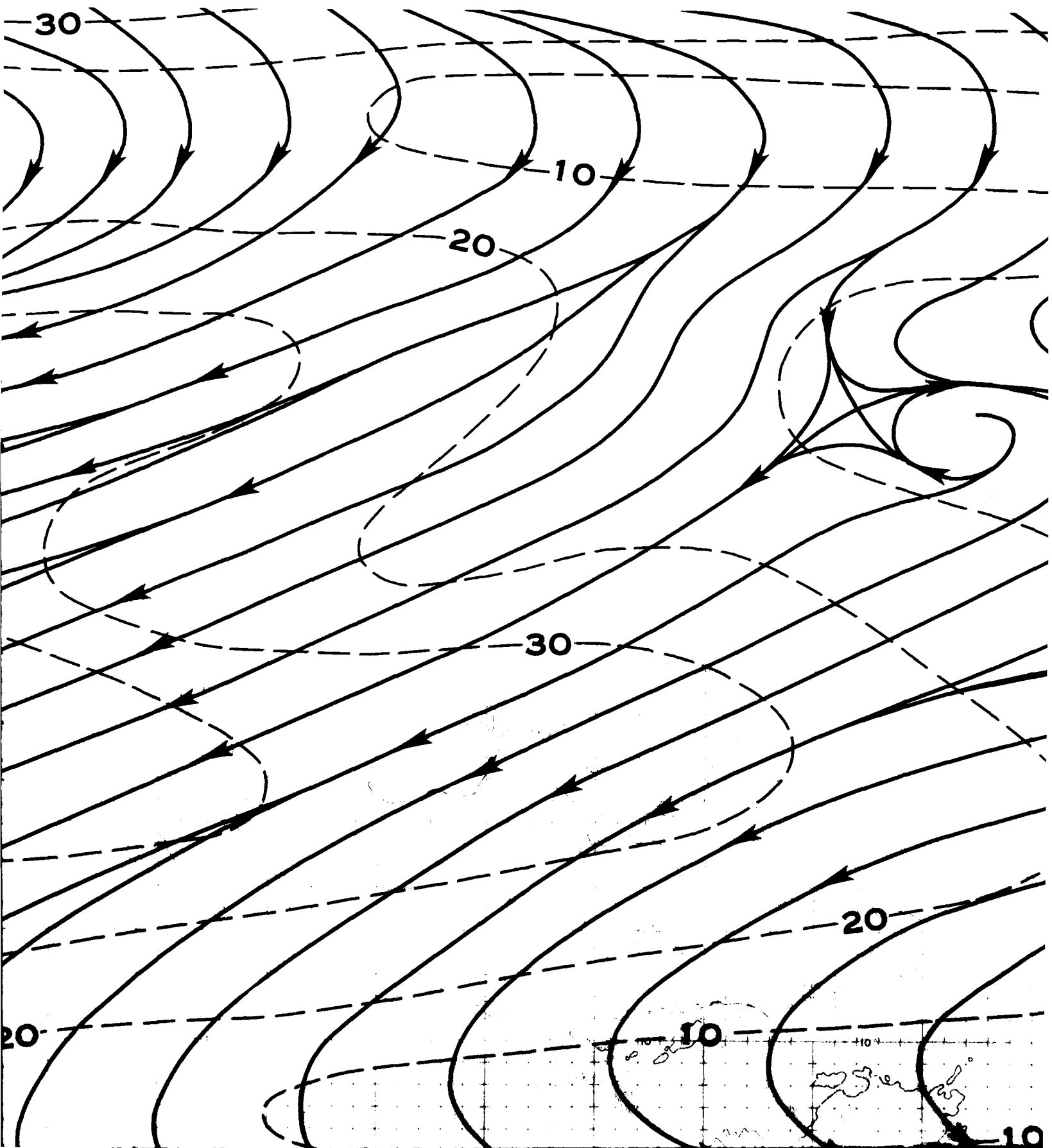


10

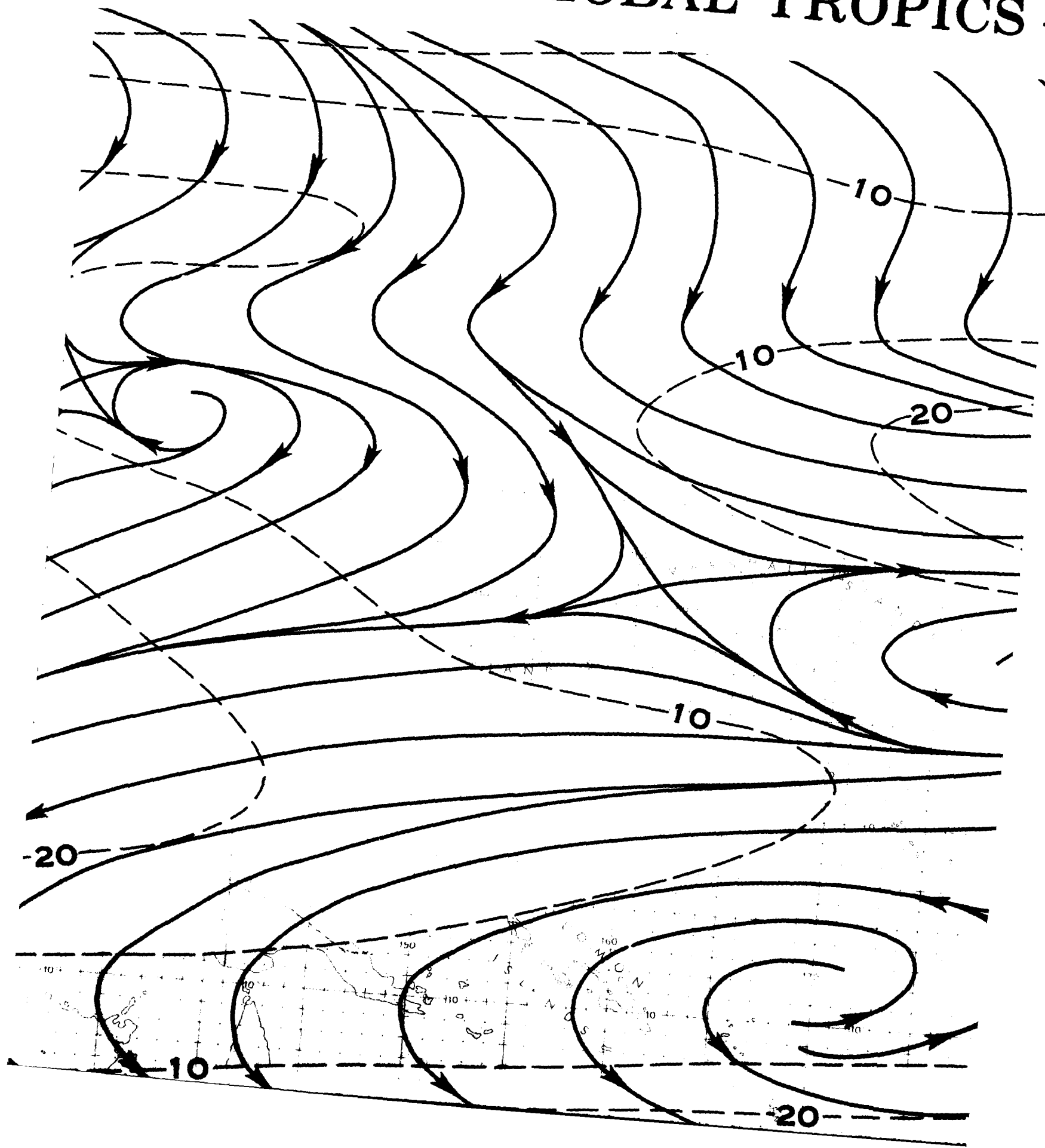
MULW-207W



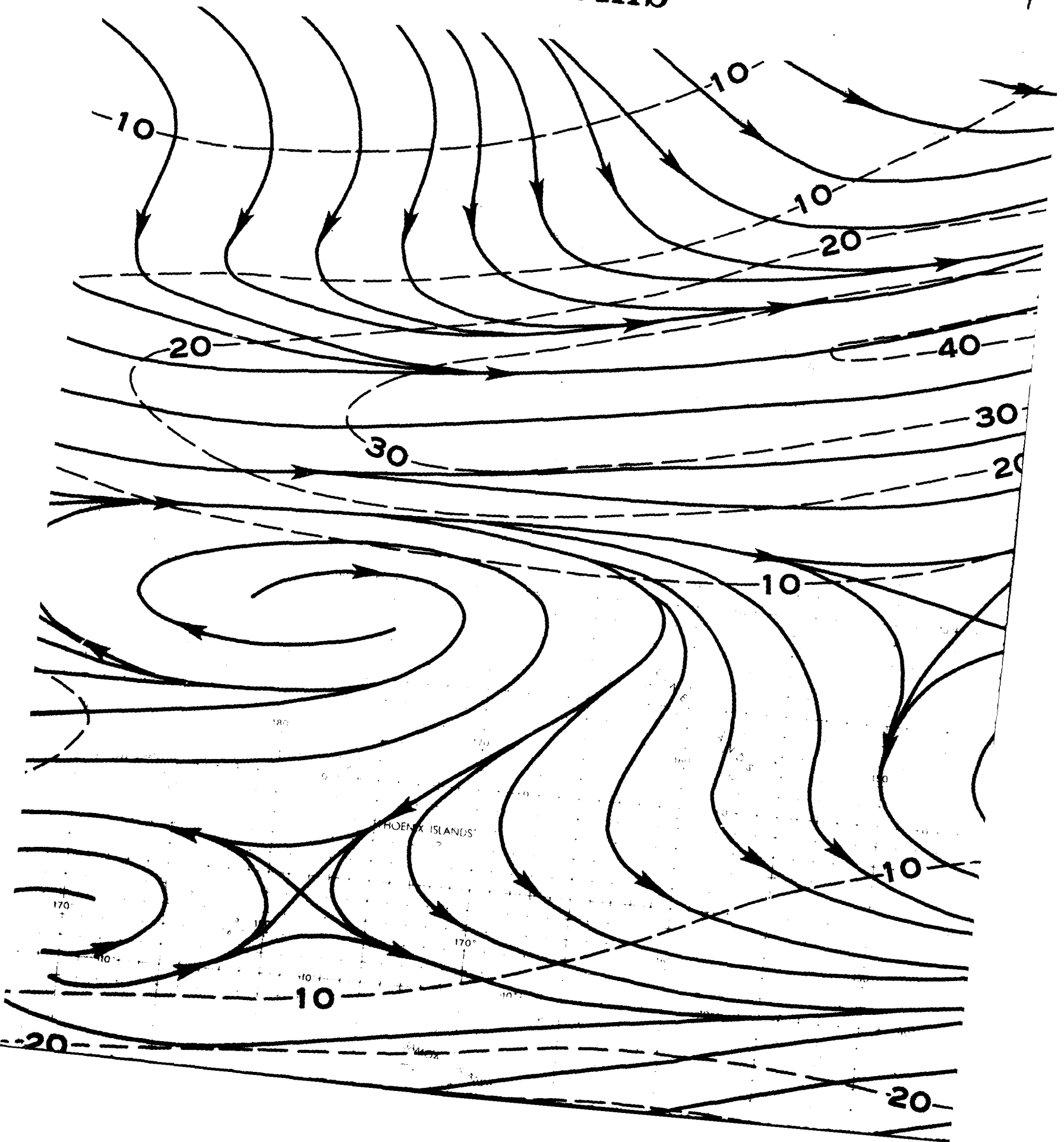
# MEAN UPPER LEVEL WIN



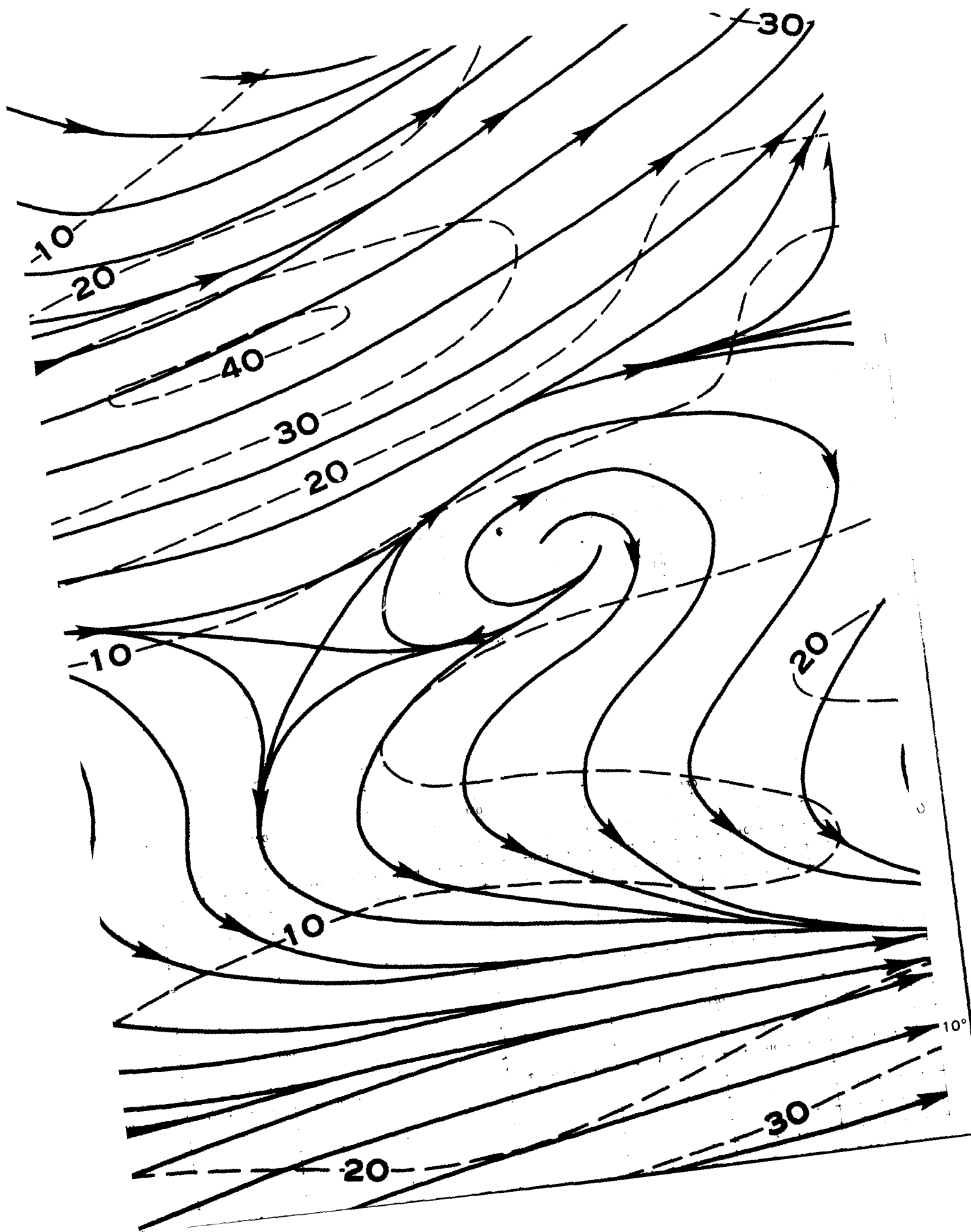
# WINDS over GLOBAL TROPICS

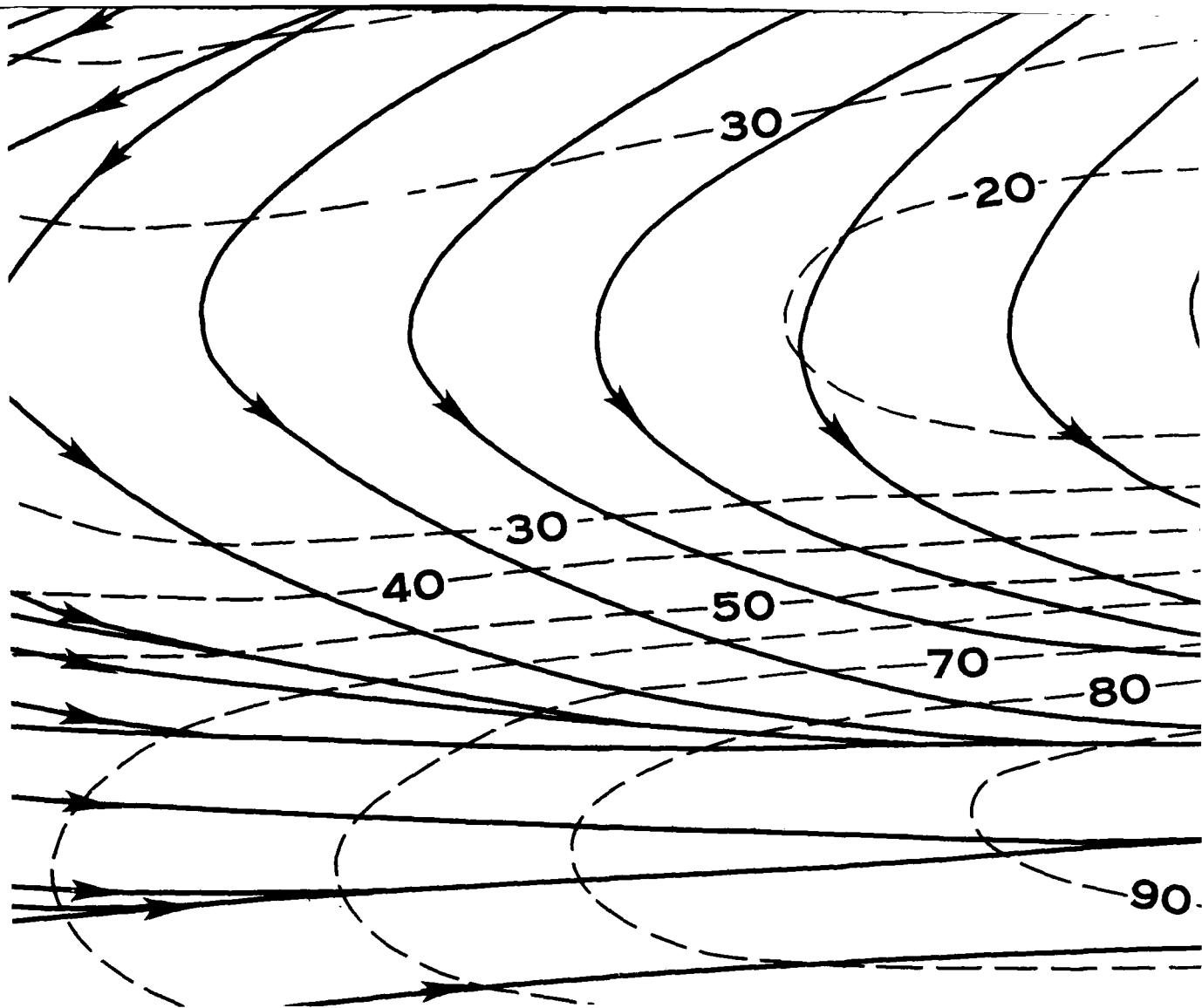


# OPICS - JULY 200mb

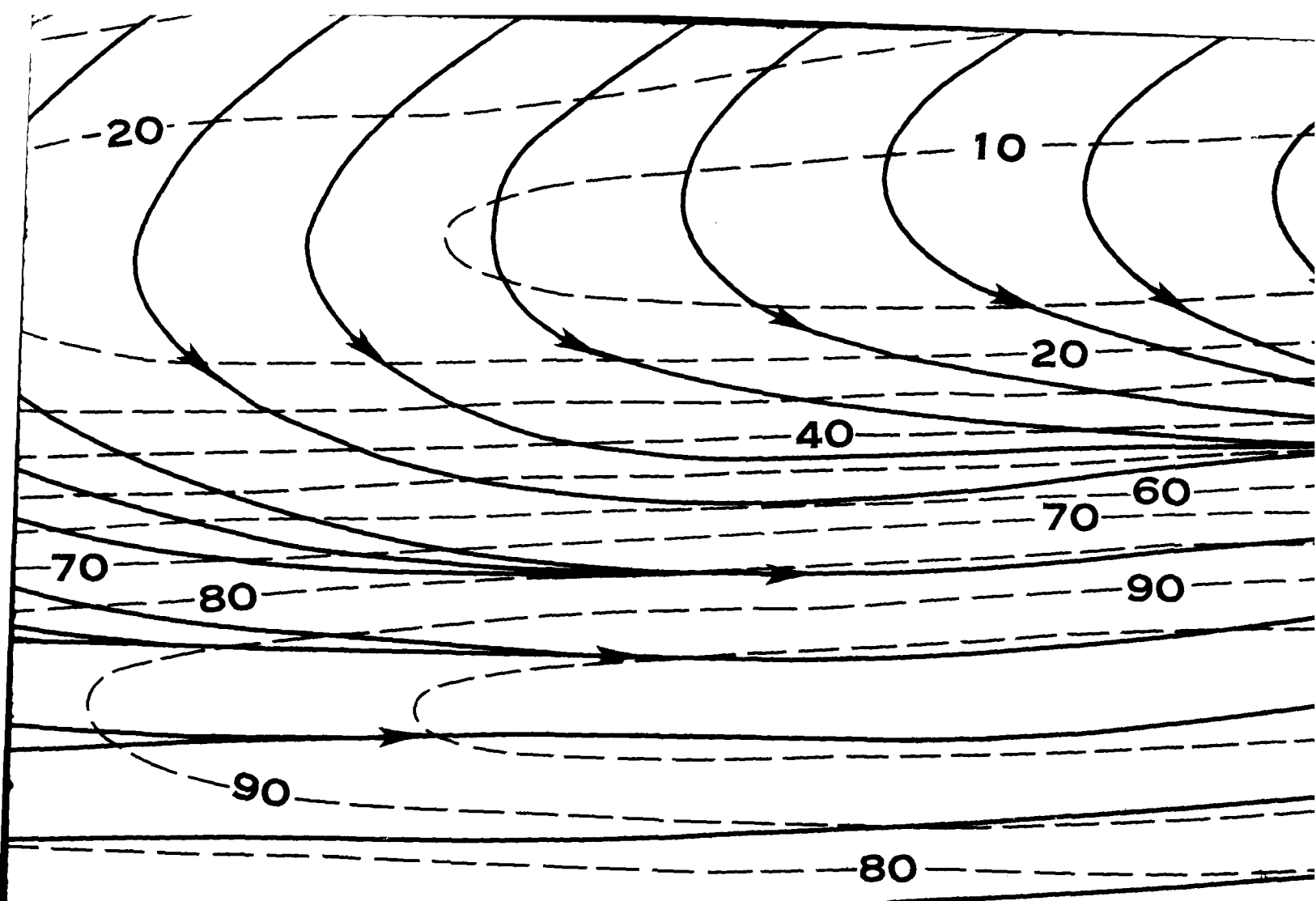




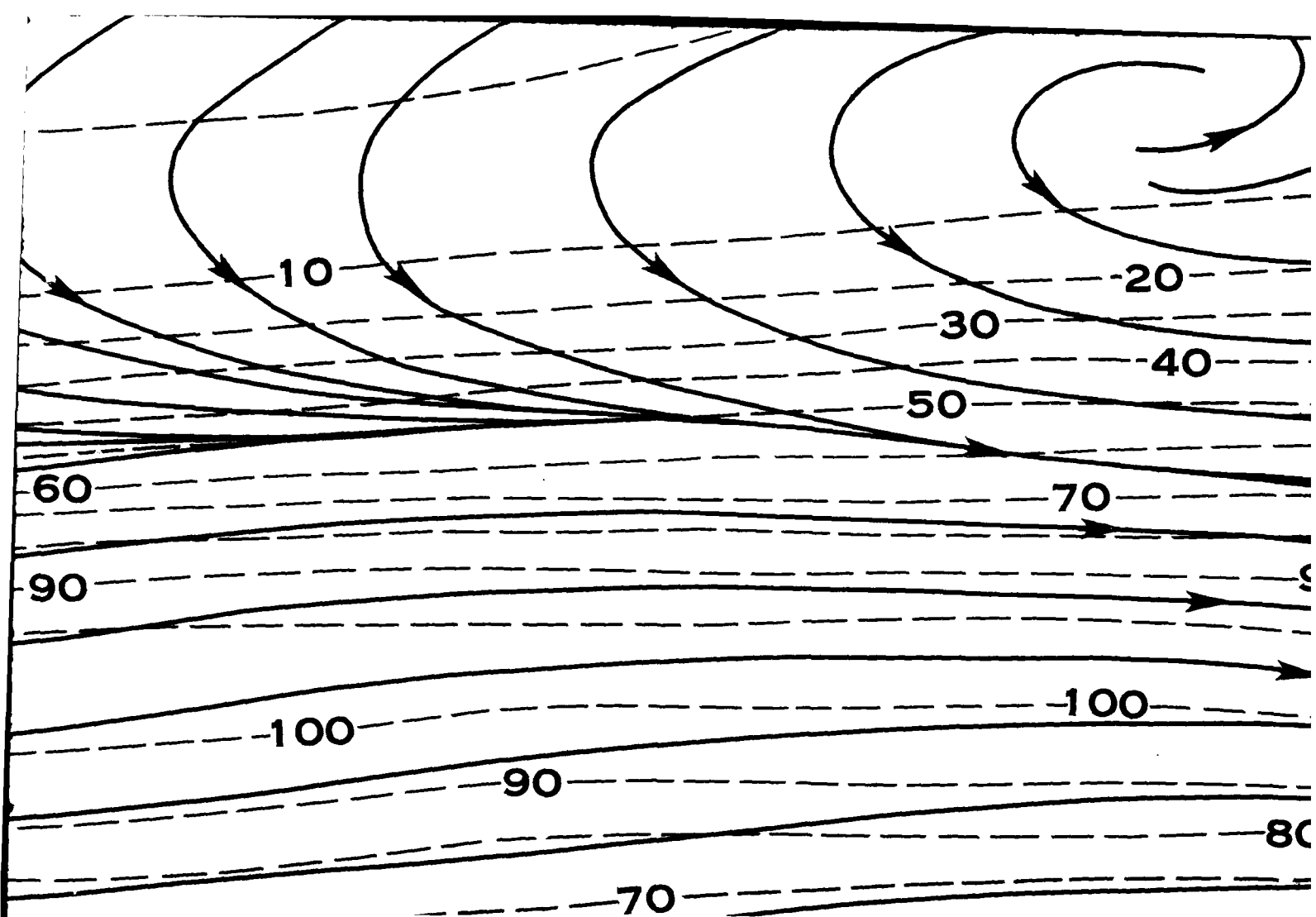




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AD-A141 484

MEAN UPPER TROPOSPHERIC FLOW OVER THE GLOBAL TROPICS

516

VOLUME 21(1) AIR WEATHER SERVICE SCOTT AFB IL

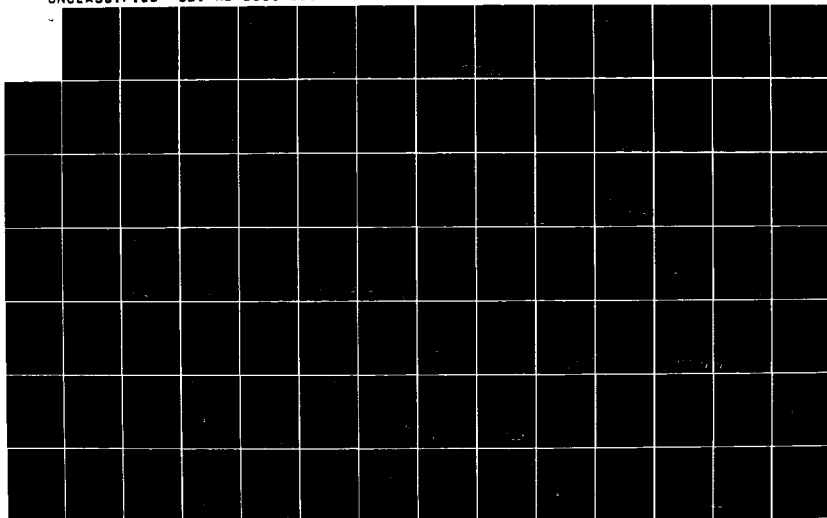
J C SADLER ET AL. JAN 84 AWS/TR-83/002-VOL-2

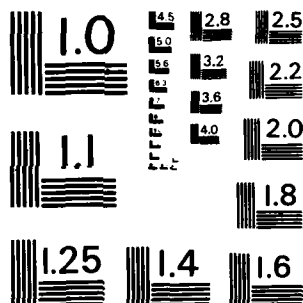
UNCLASSIFIED

SBI-AD-E850 890

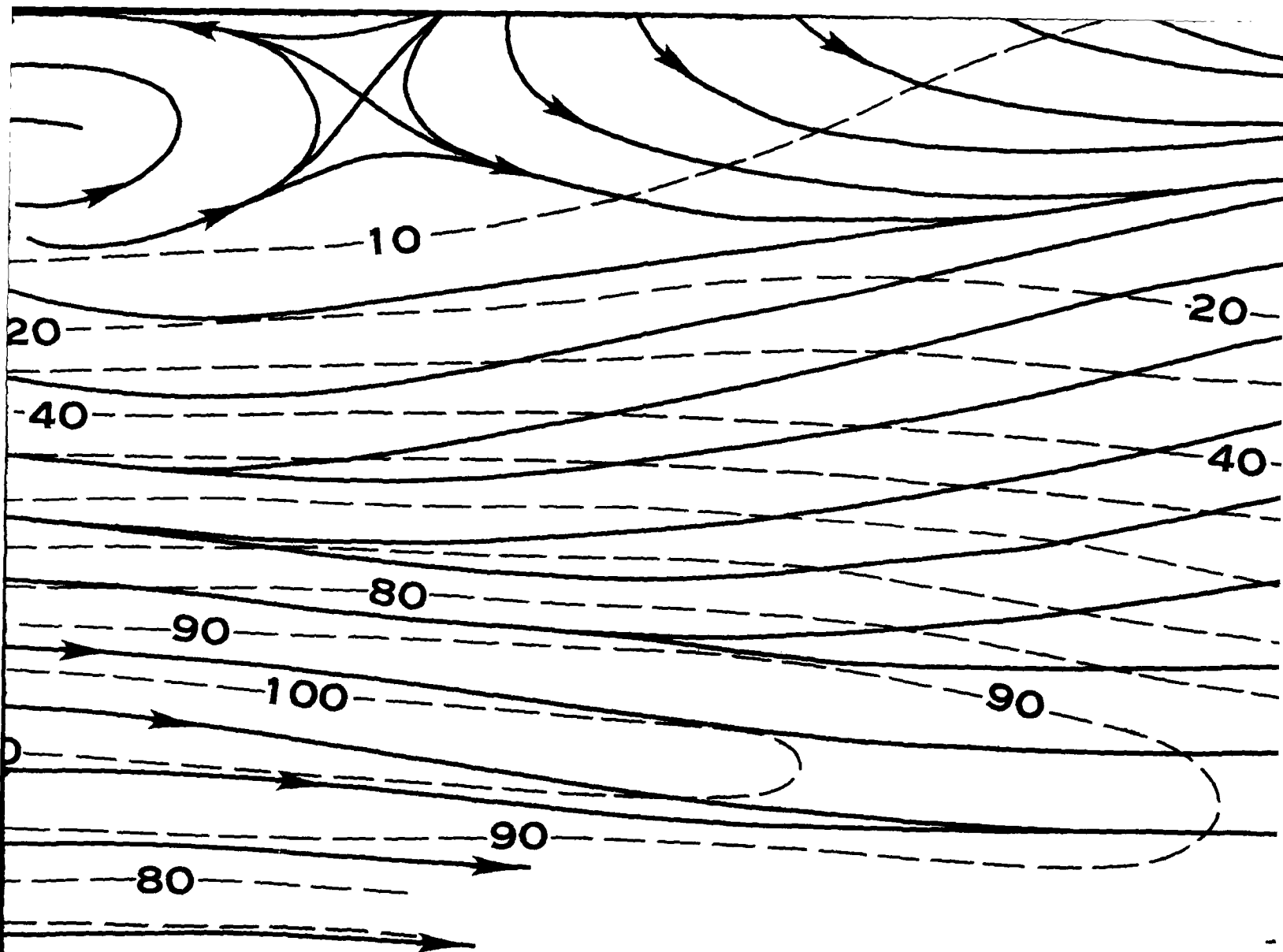
F/G 4/2

NL

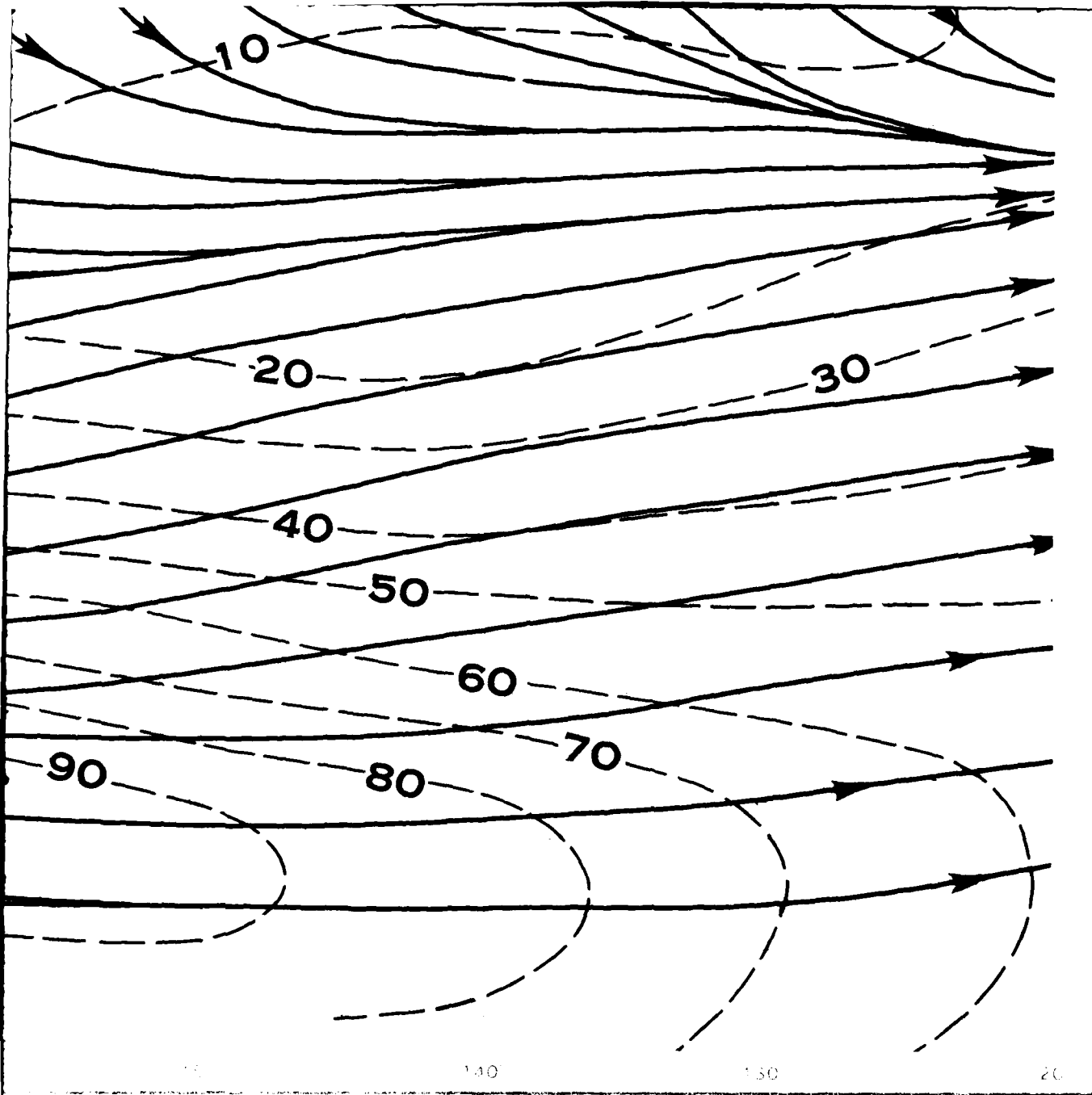




MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A



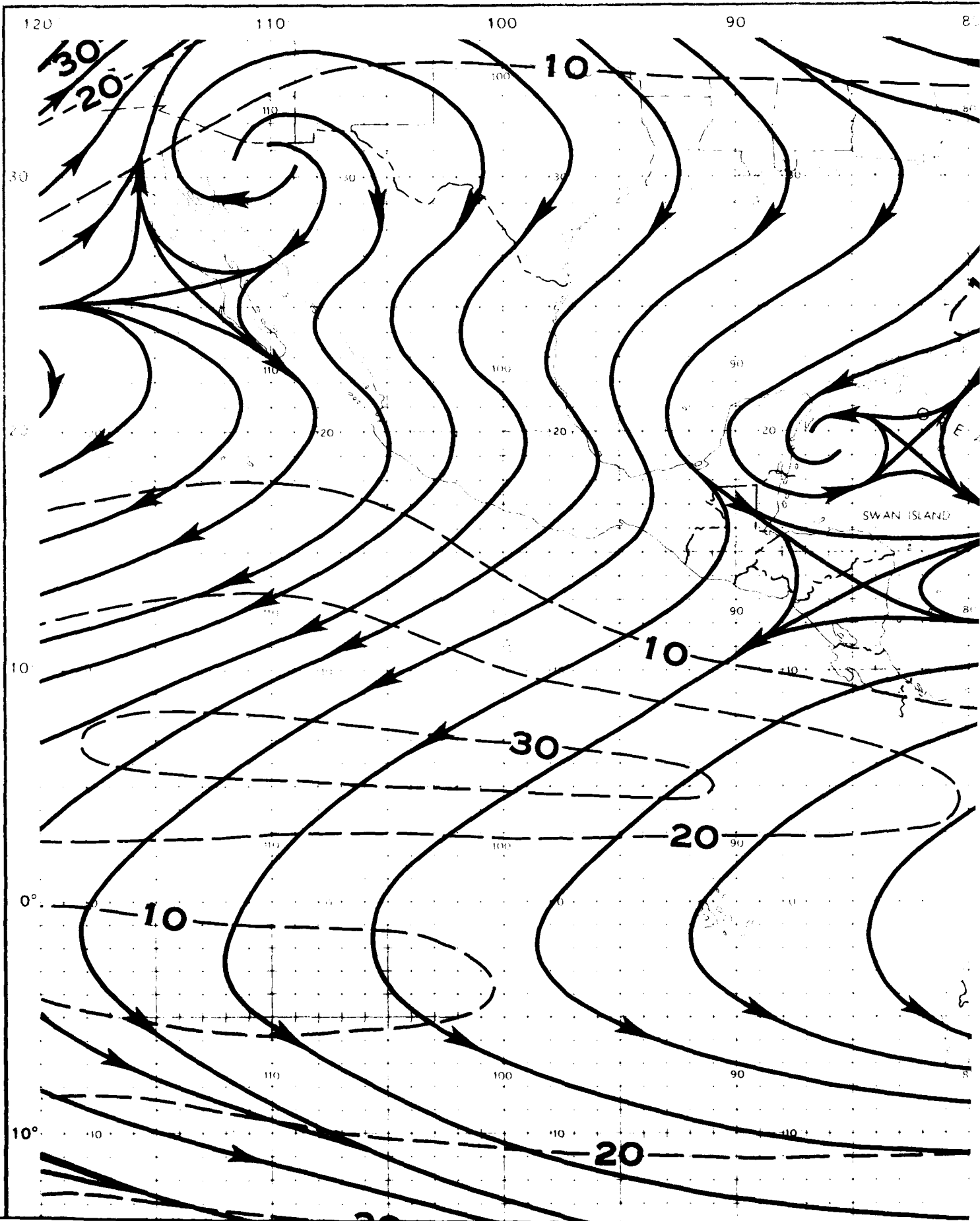
9



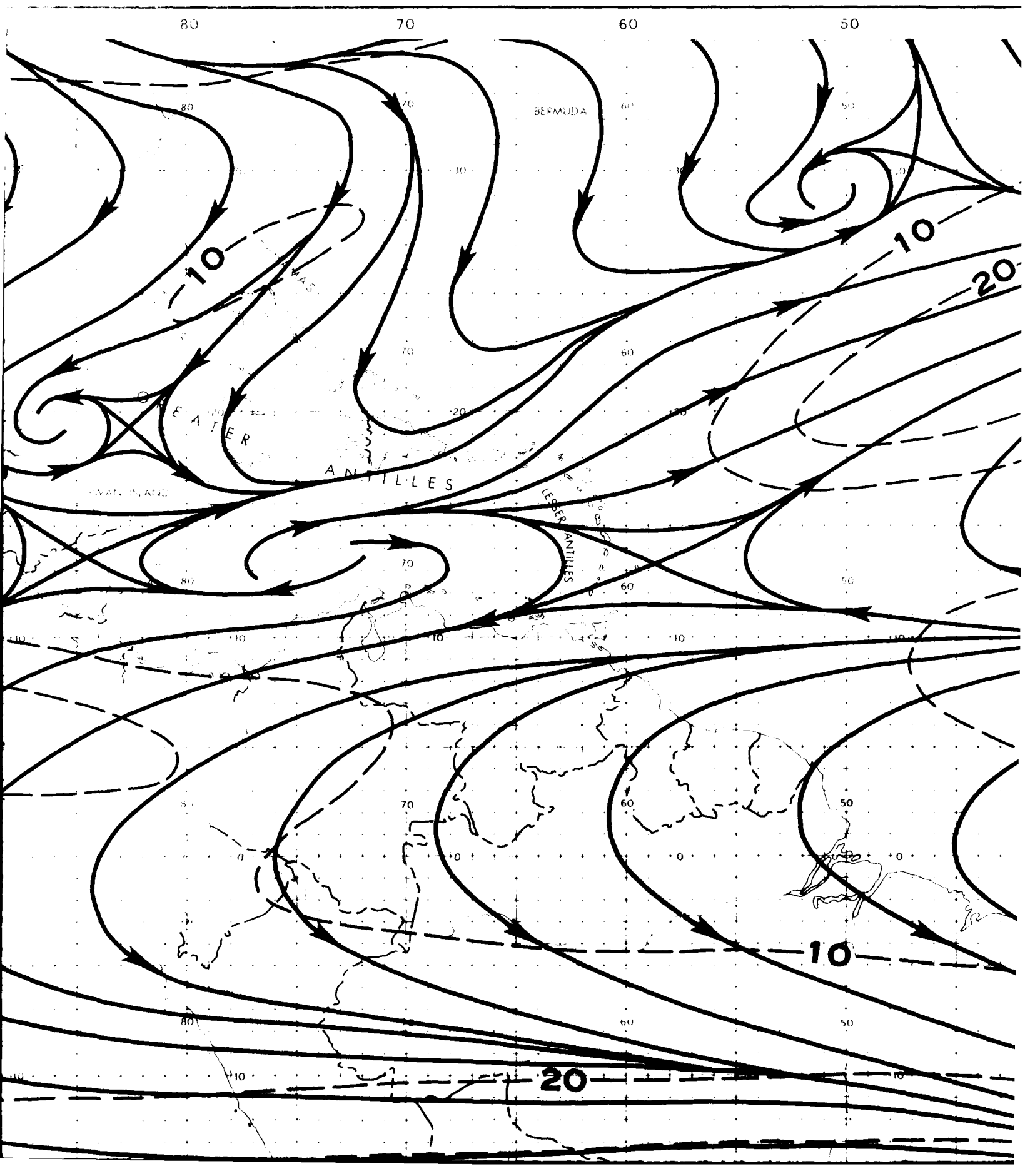
10

MULW-207E

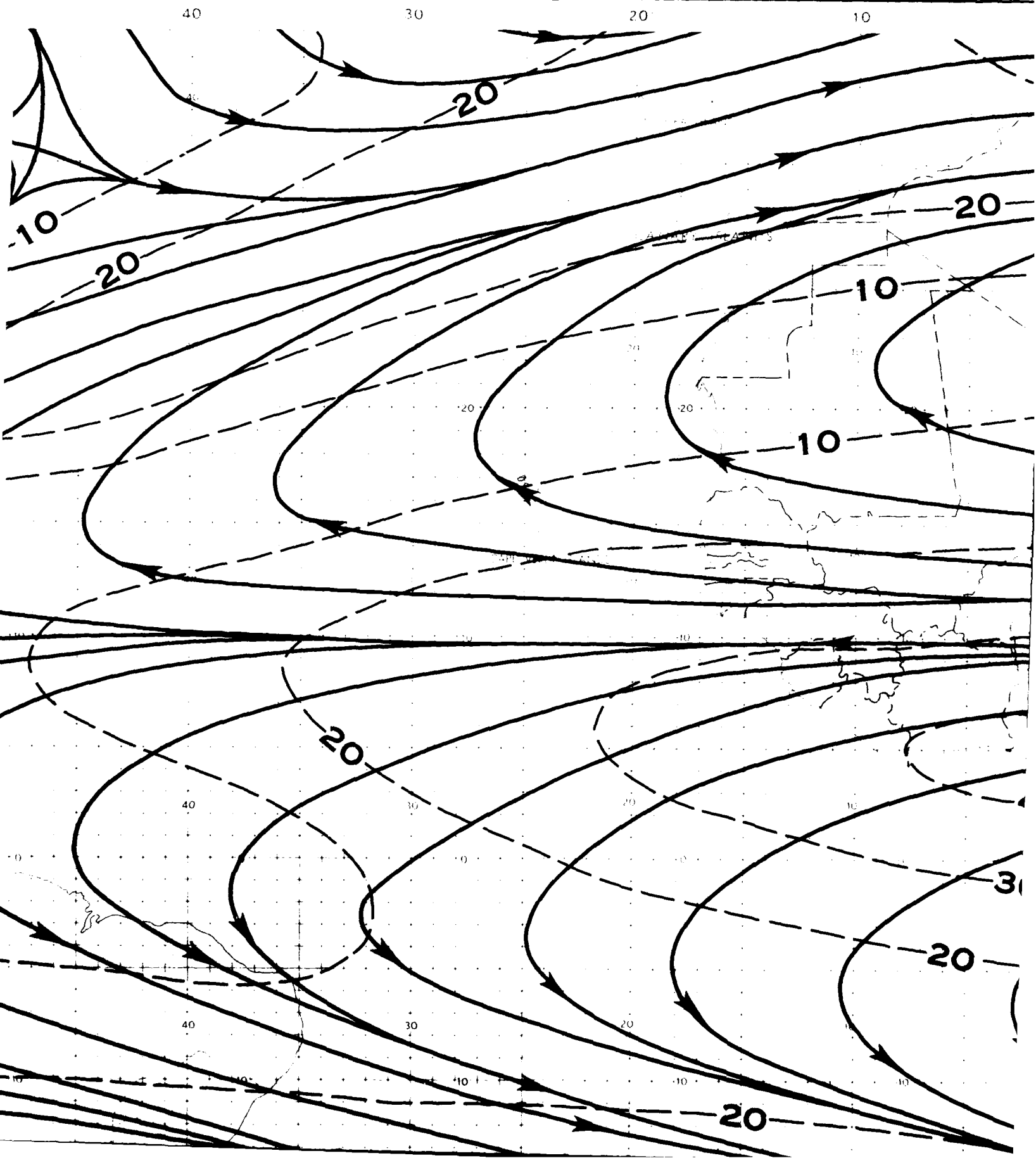




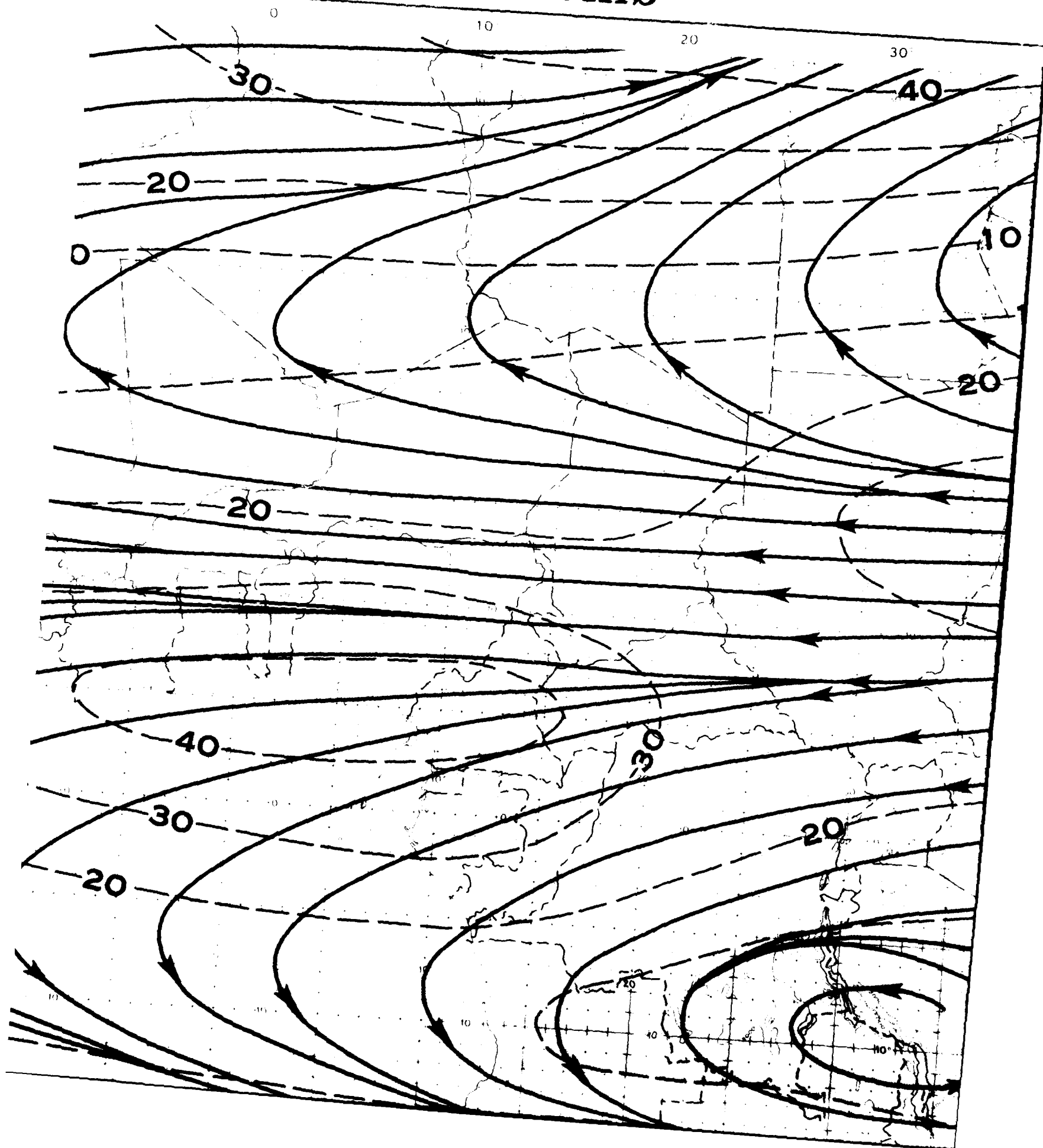
# MEAN UPPER LEVEL WIND

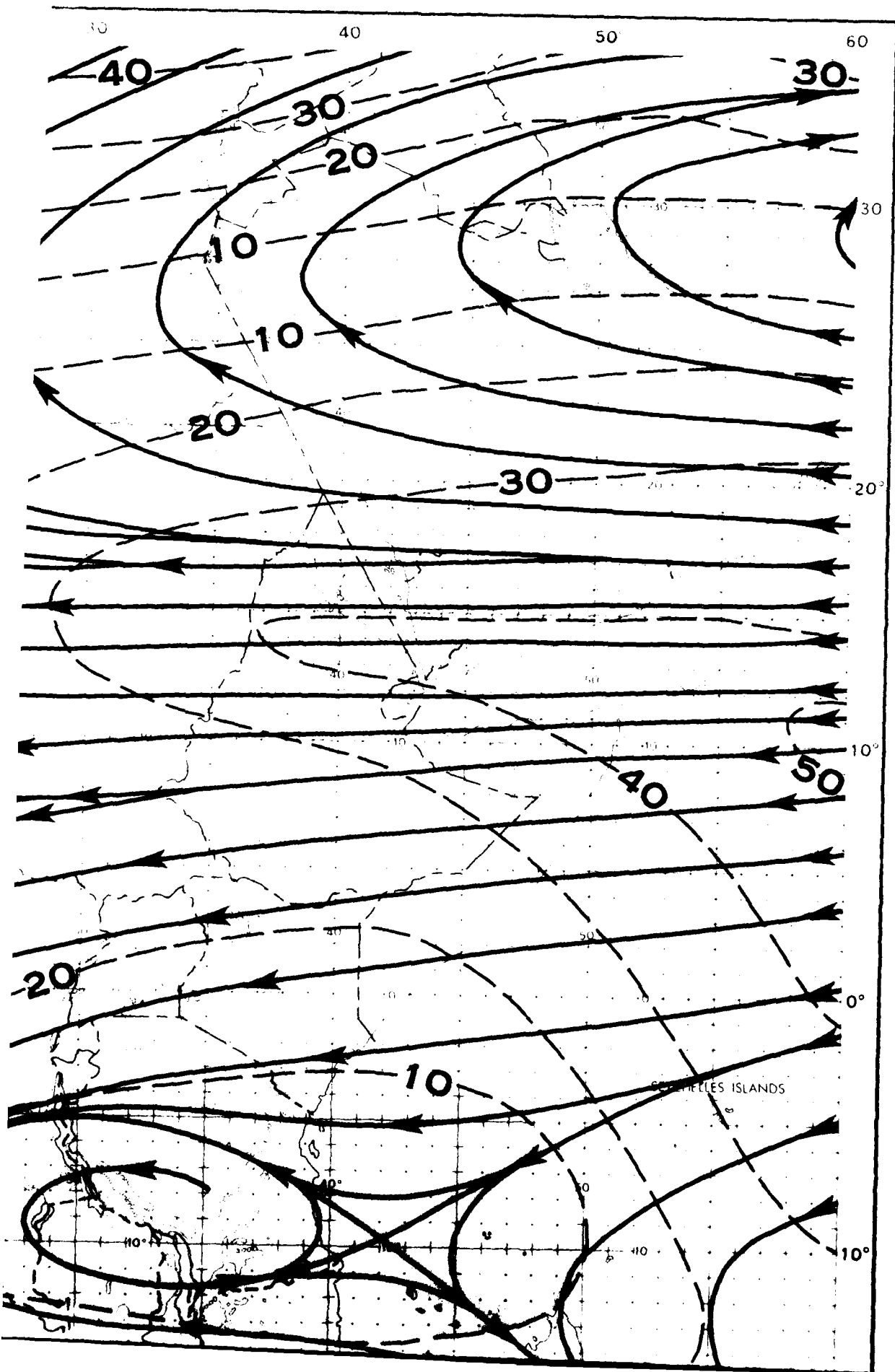


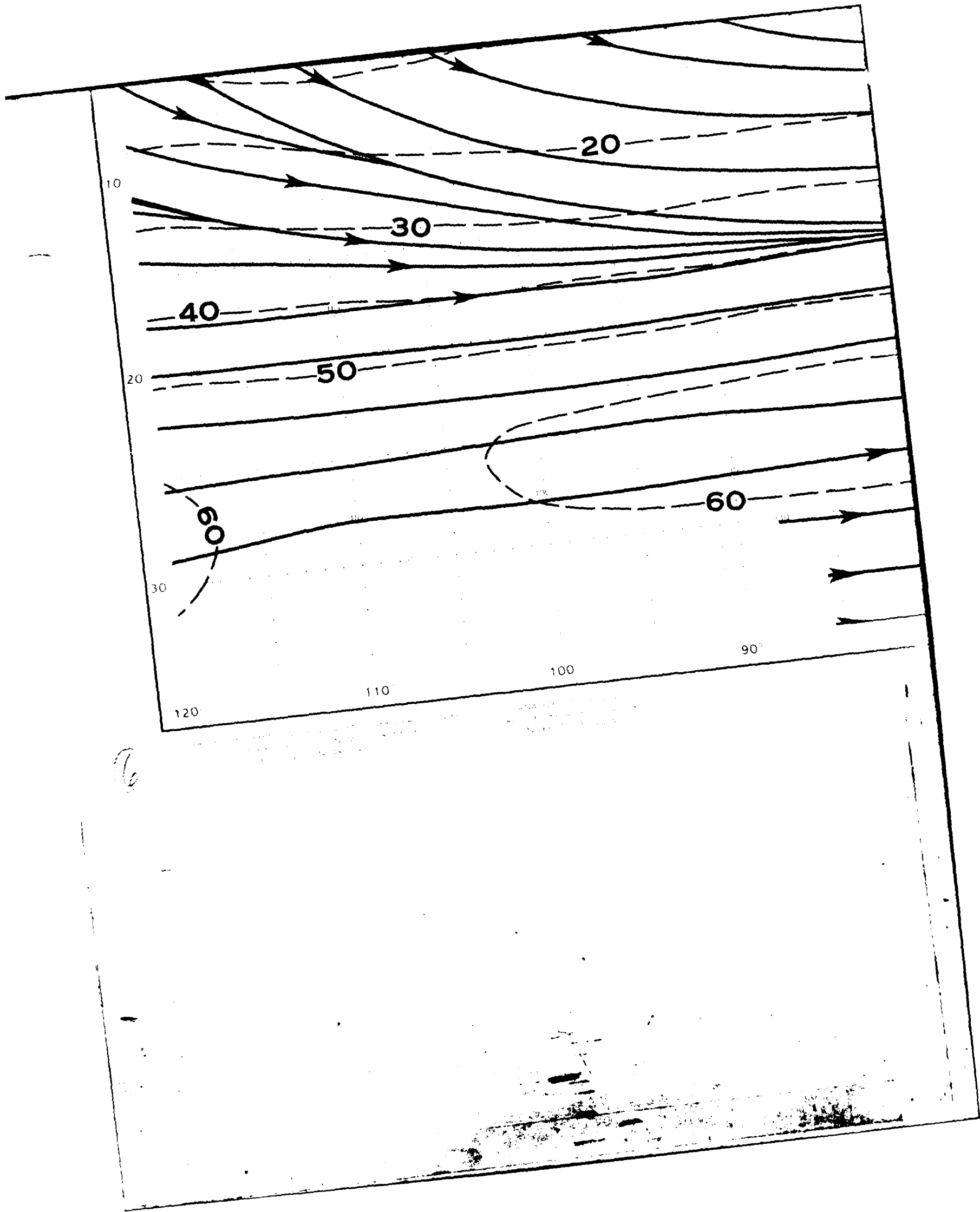
# WINDS over GLOBAL TROPICS

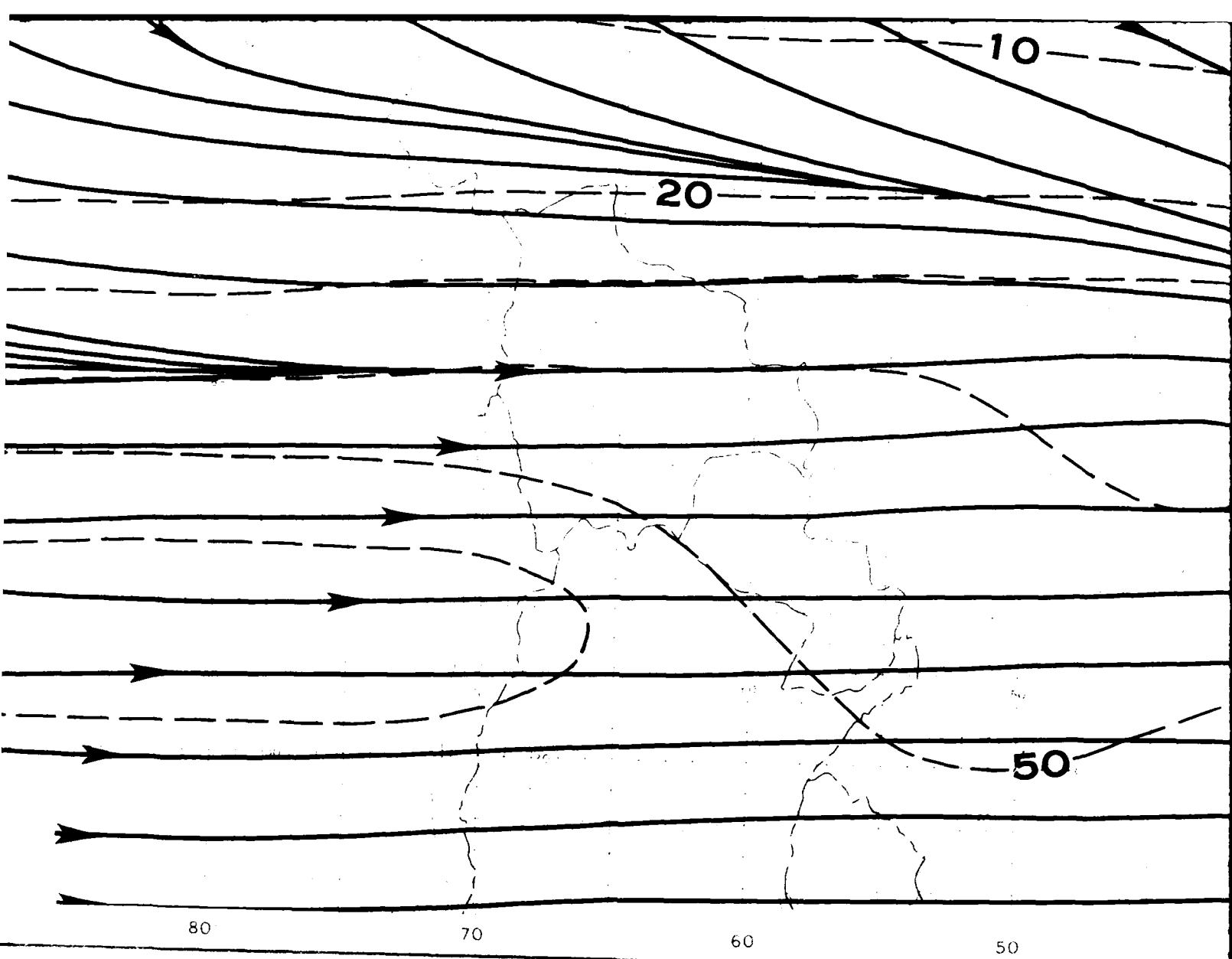


# ICS - AUGUST 200mb

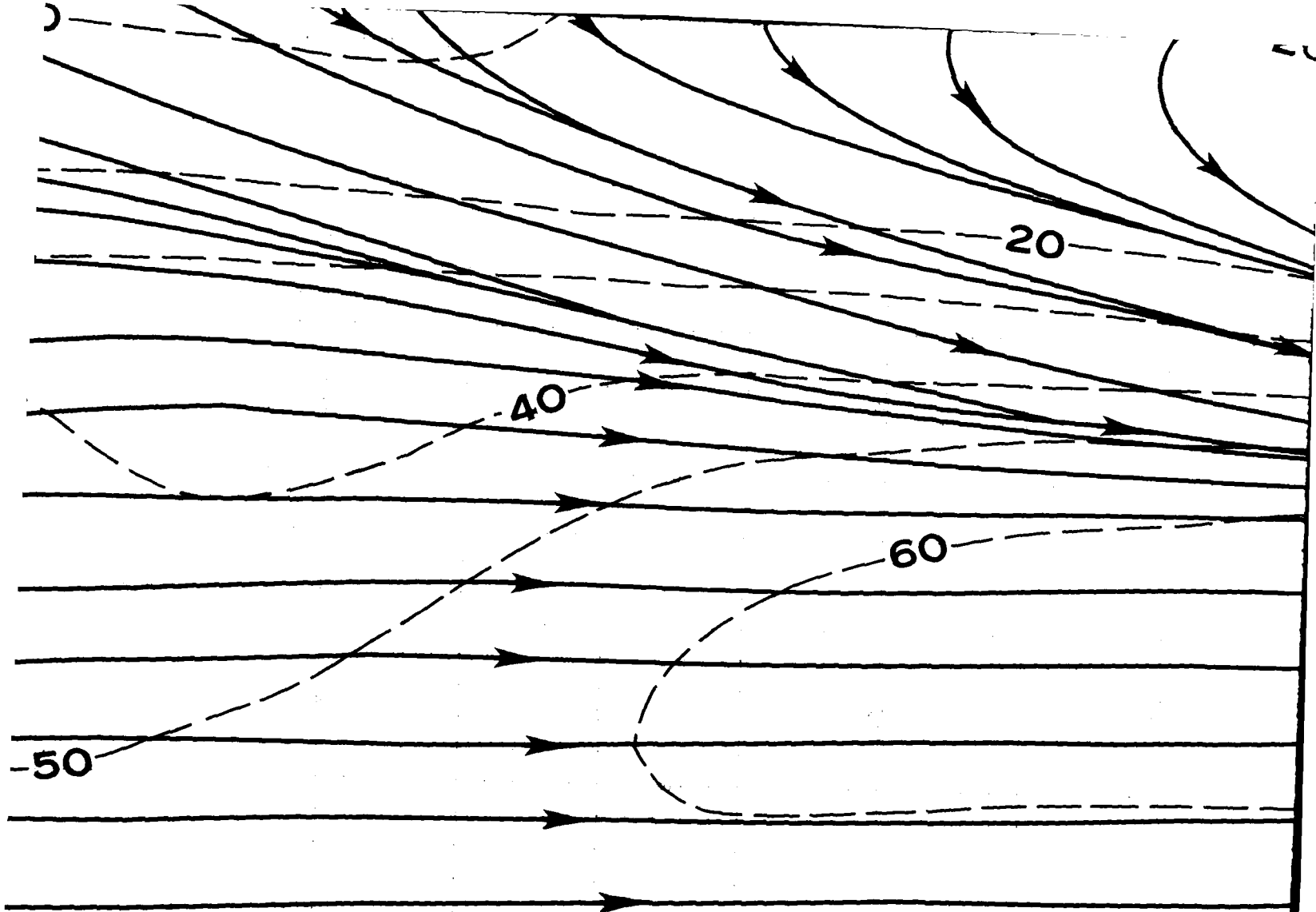








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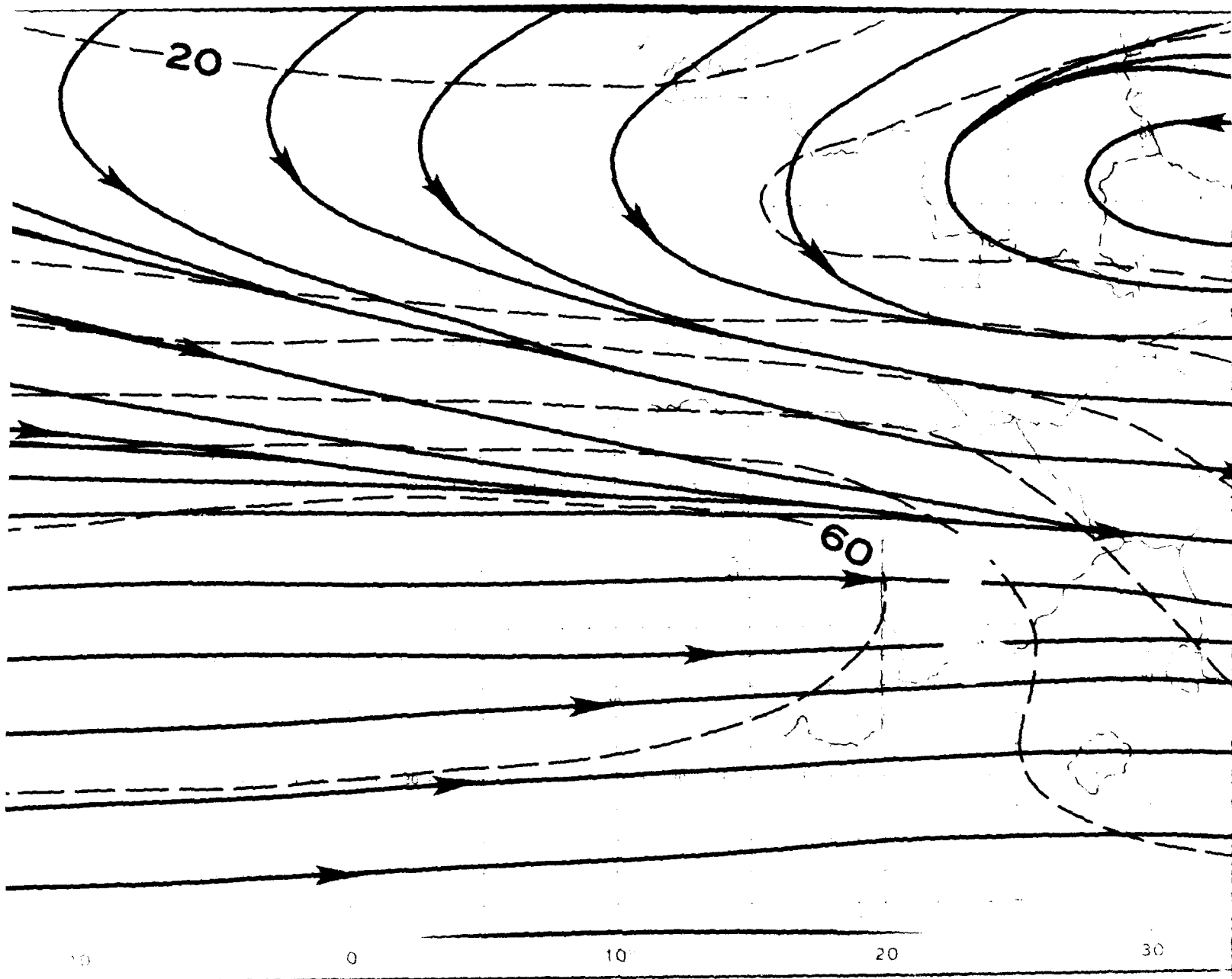


50 40 30 20 10

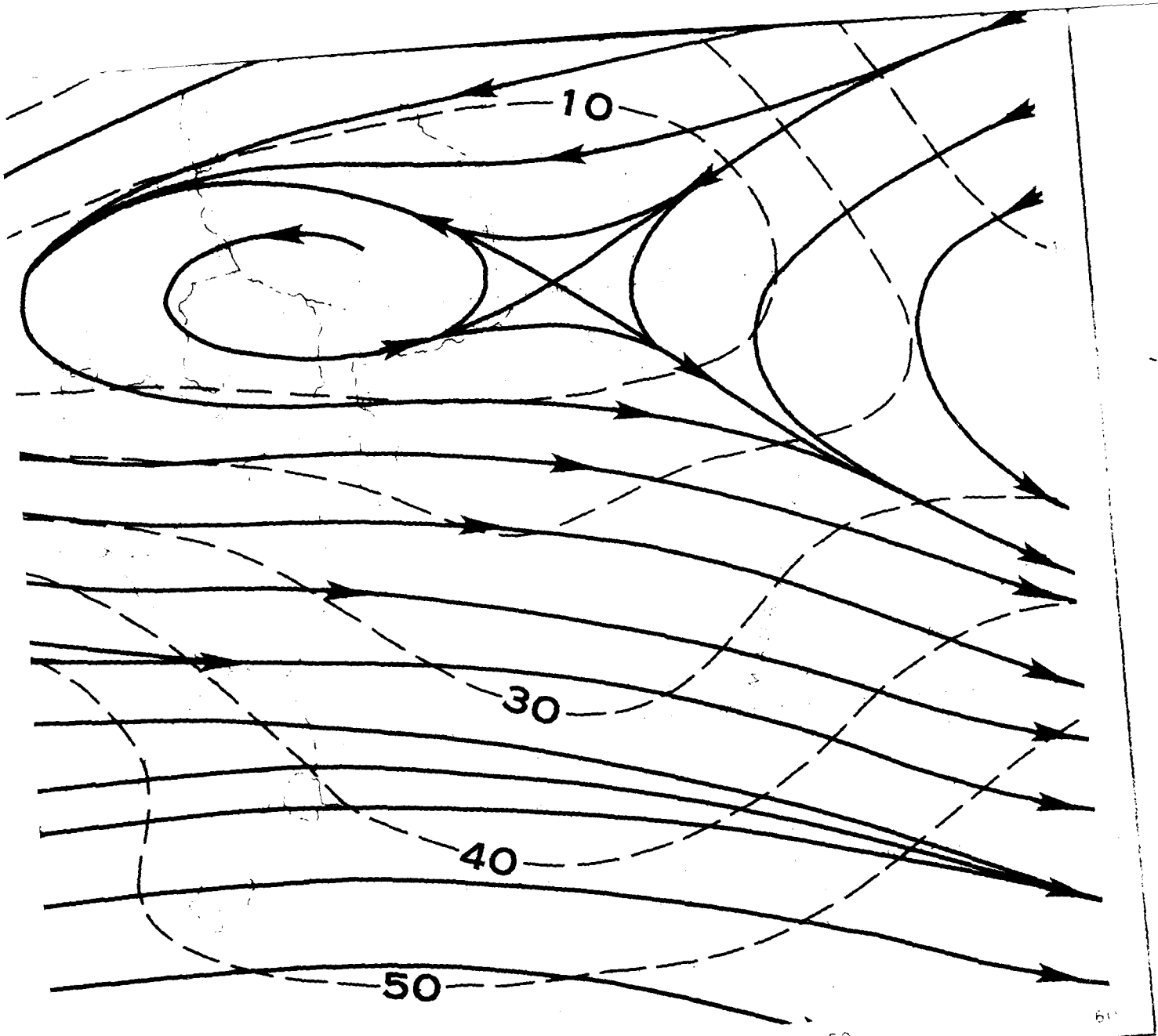
VELOCITY FIELD  
OF AIR AT 2000  
FT. ALTITUDE

(5)



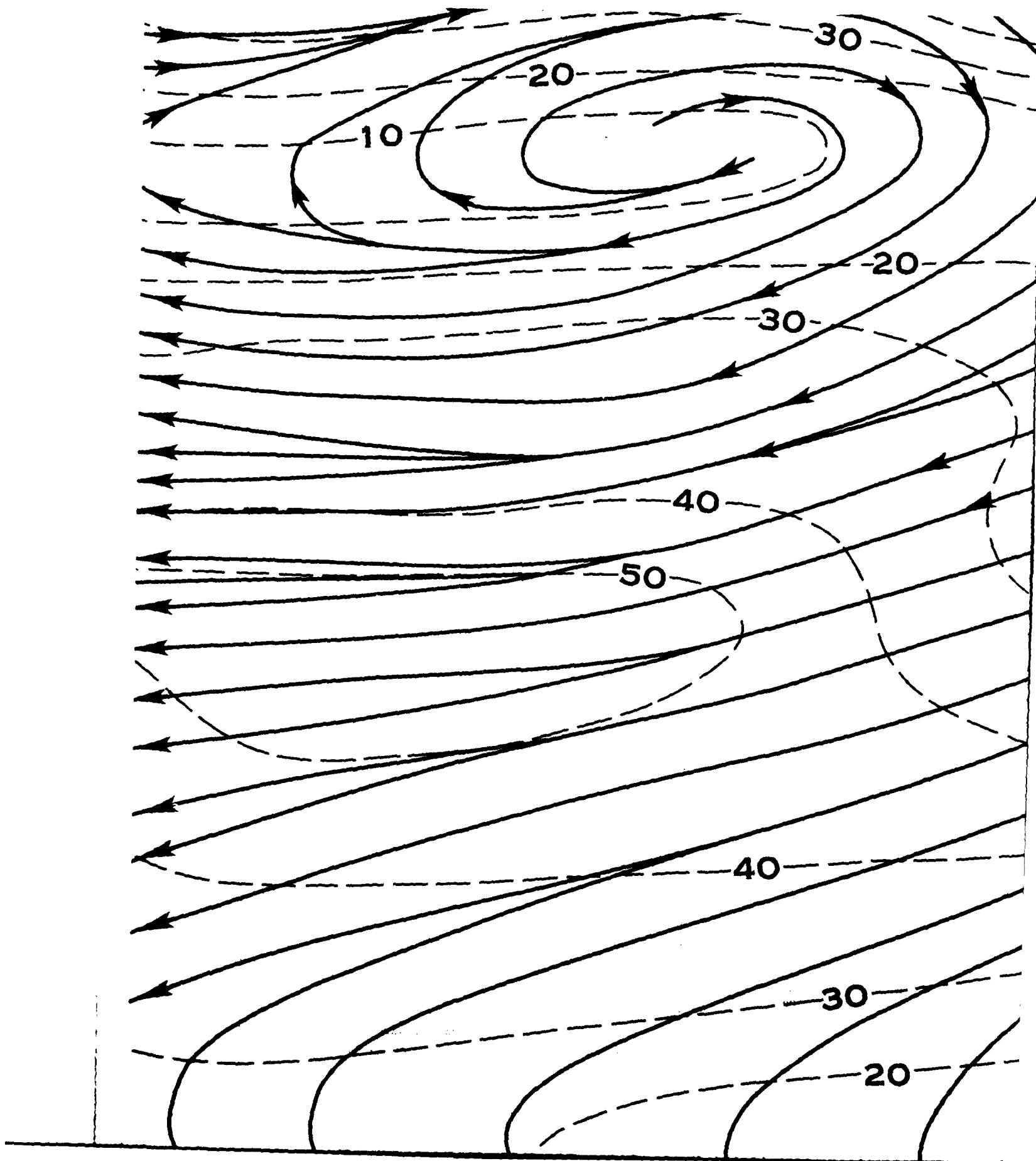


9

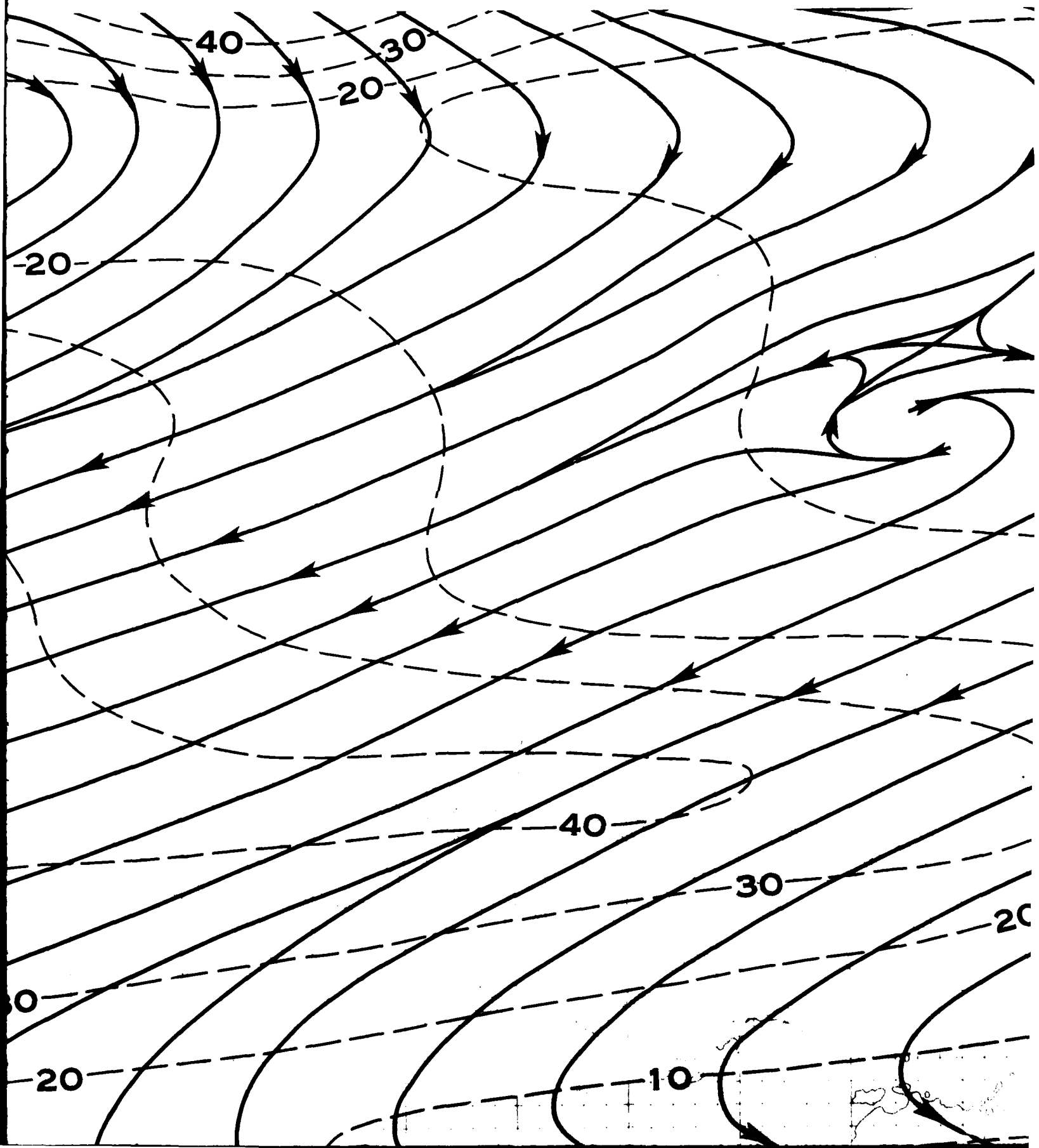


MULW-208W

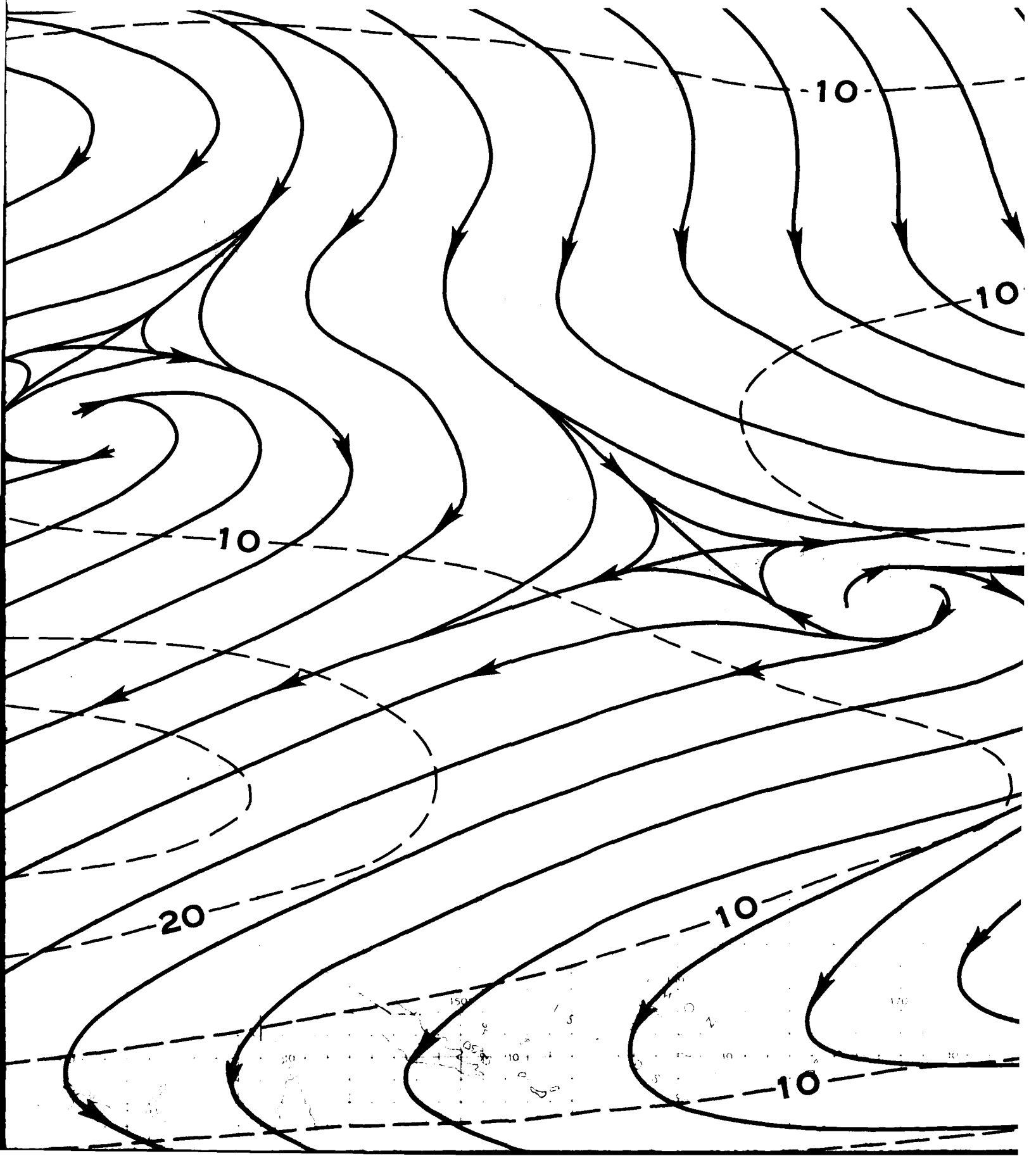




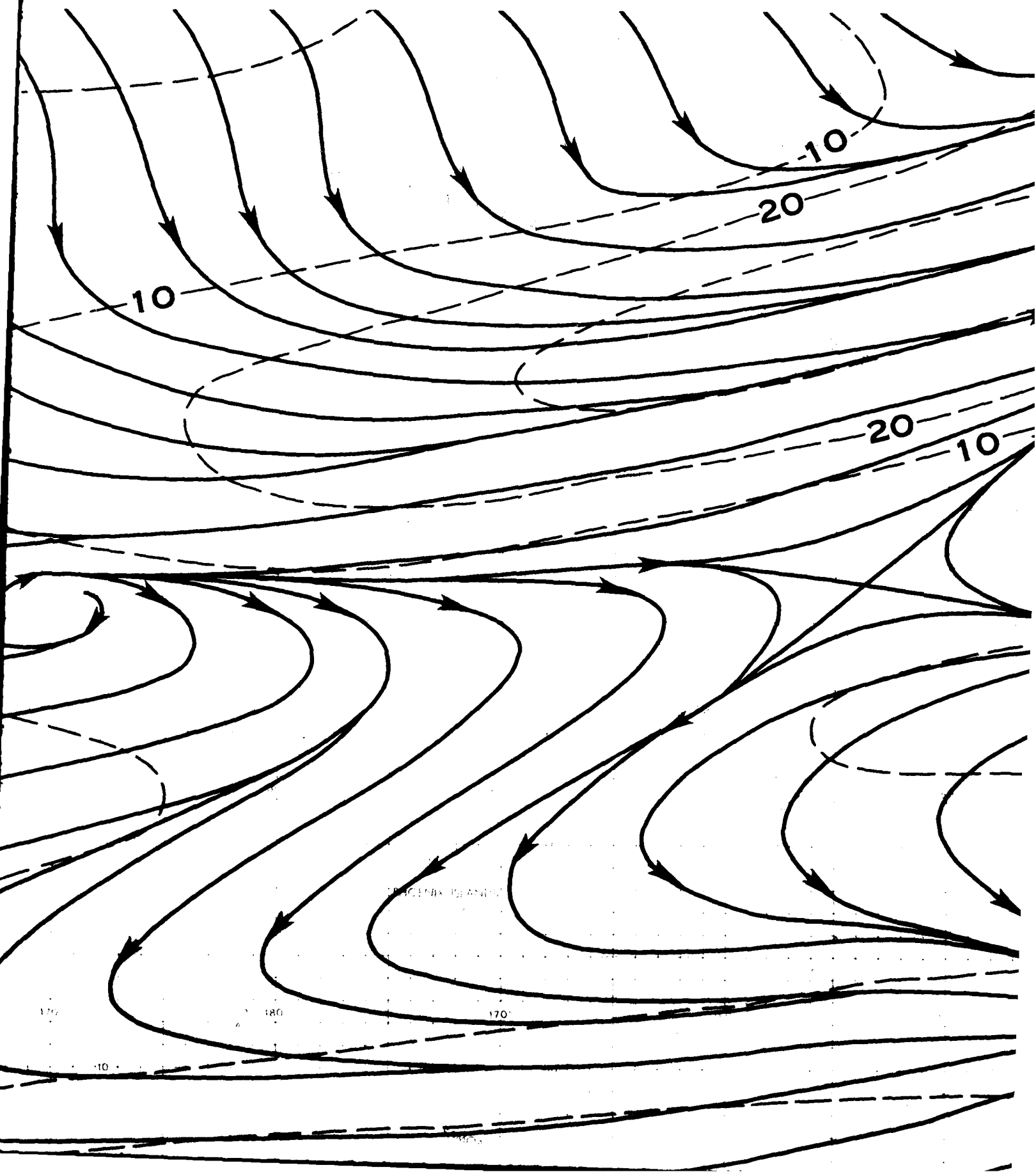
# MEAN UPPER LEVEL WIND

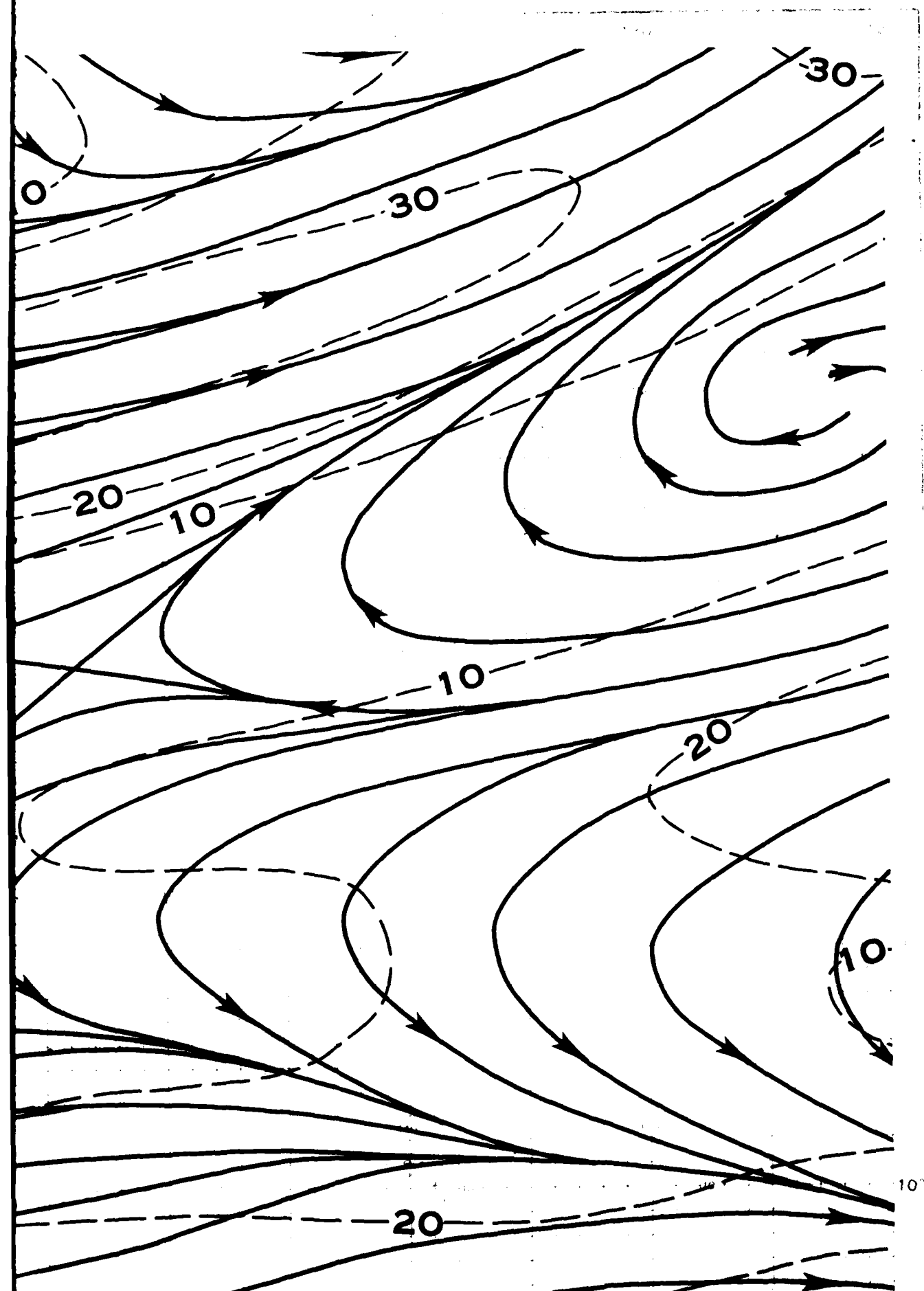


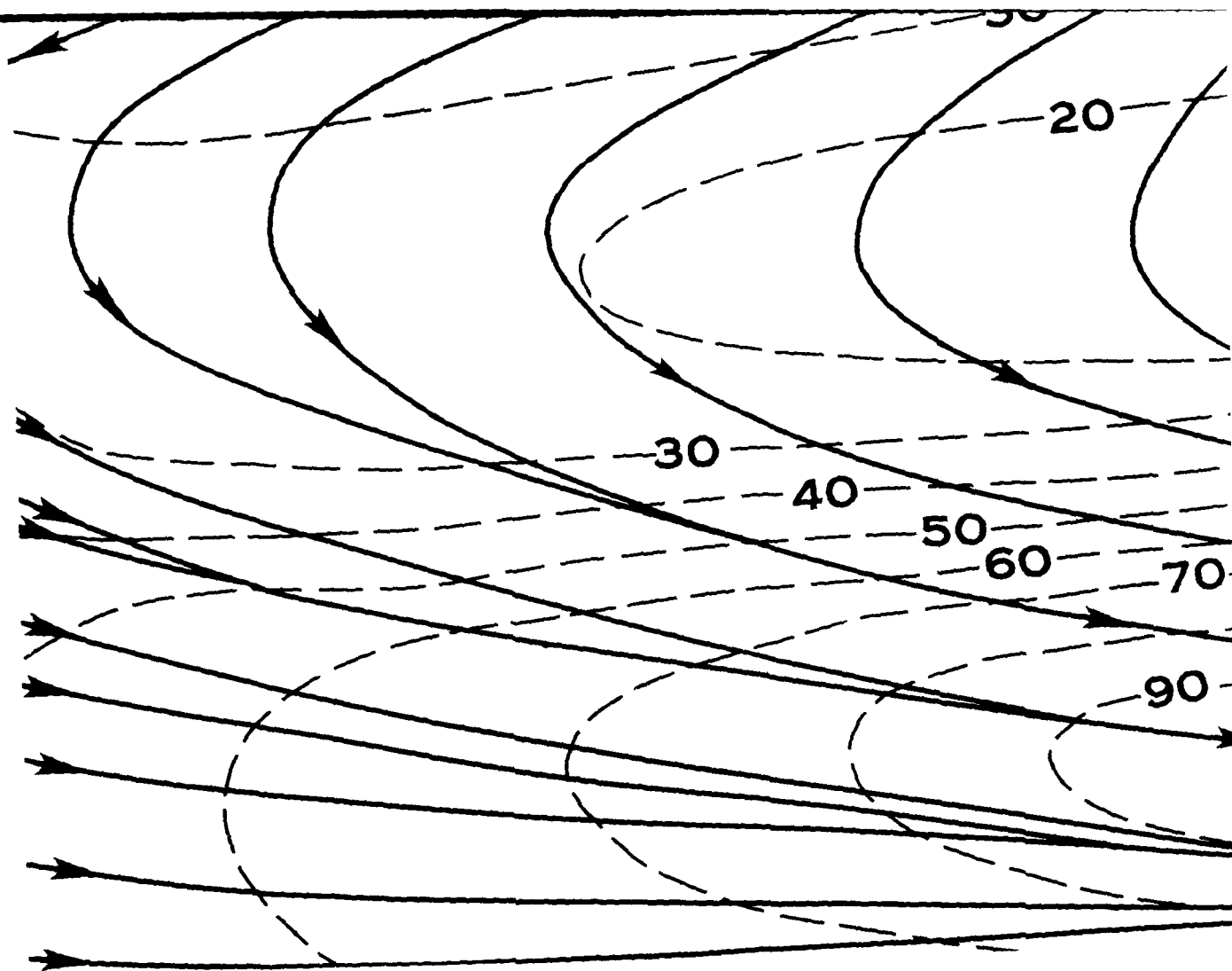
# L WINDS over GLOBAL TROPICS



# PICS - AUGUST 200mb

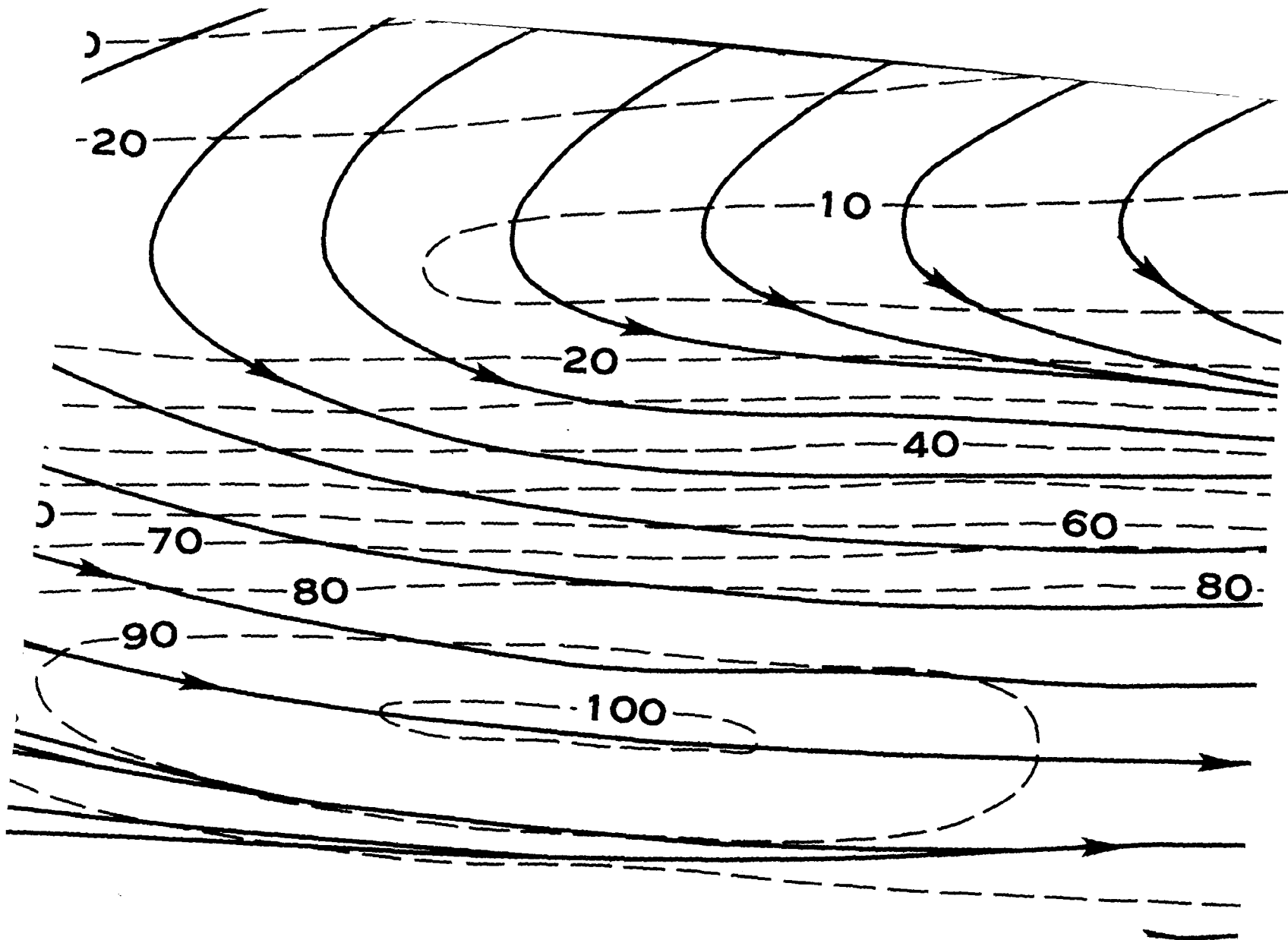




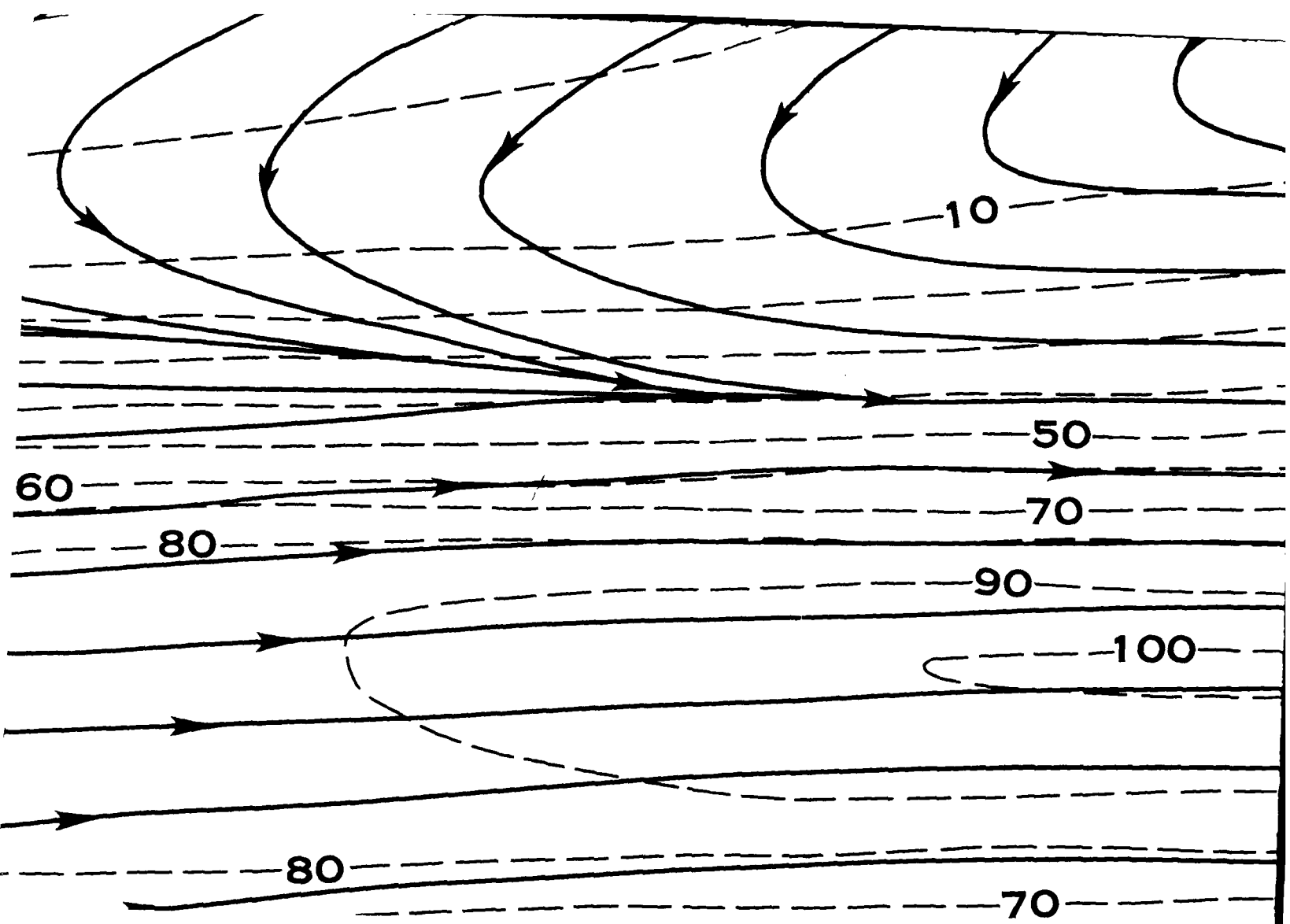


6

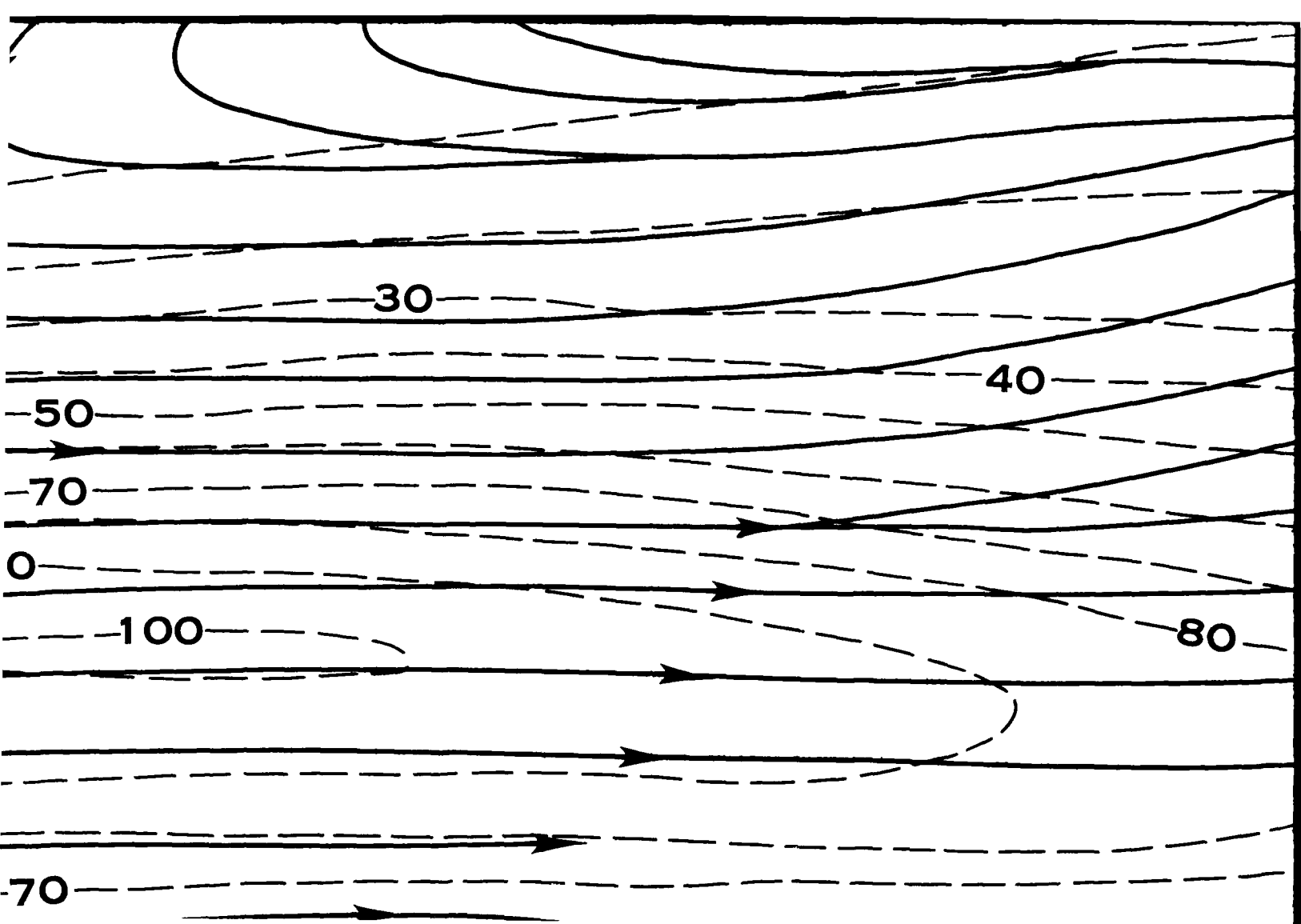




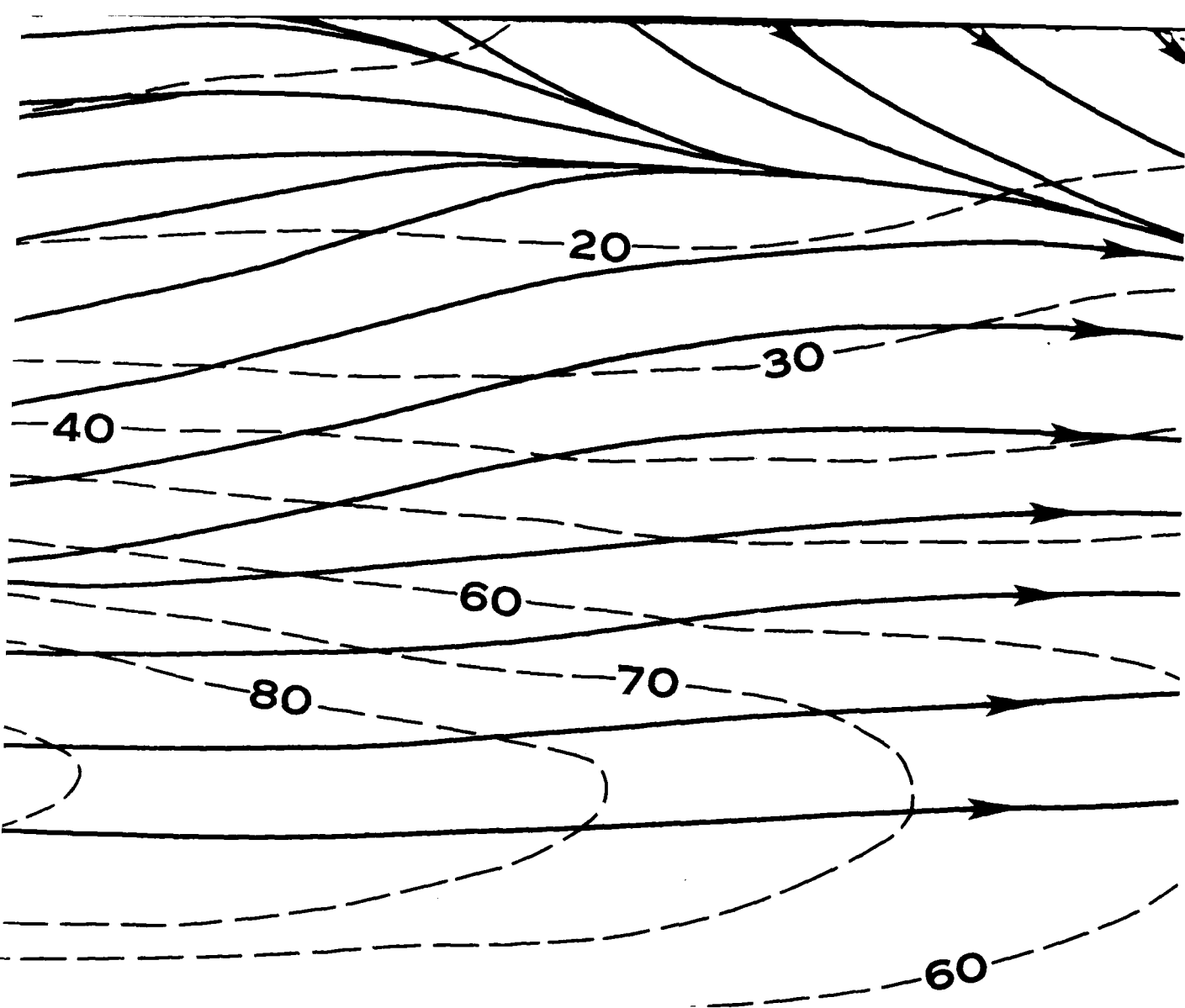
(7)



5



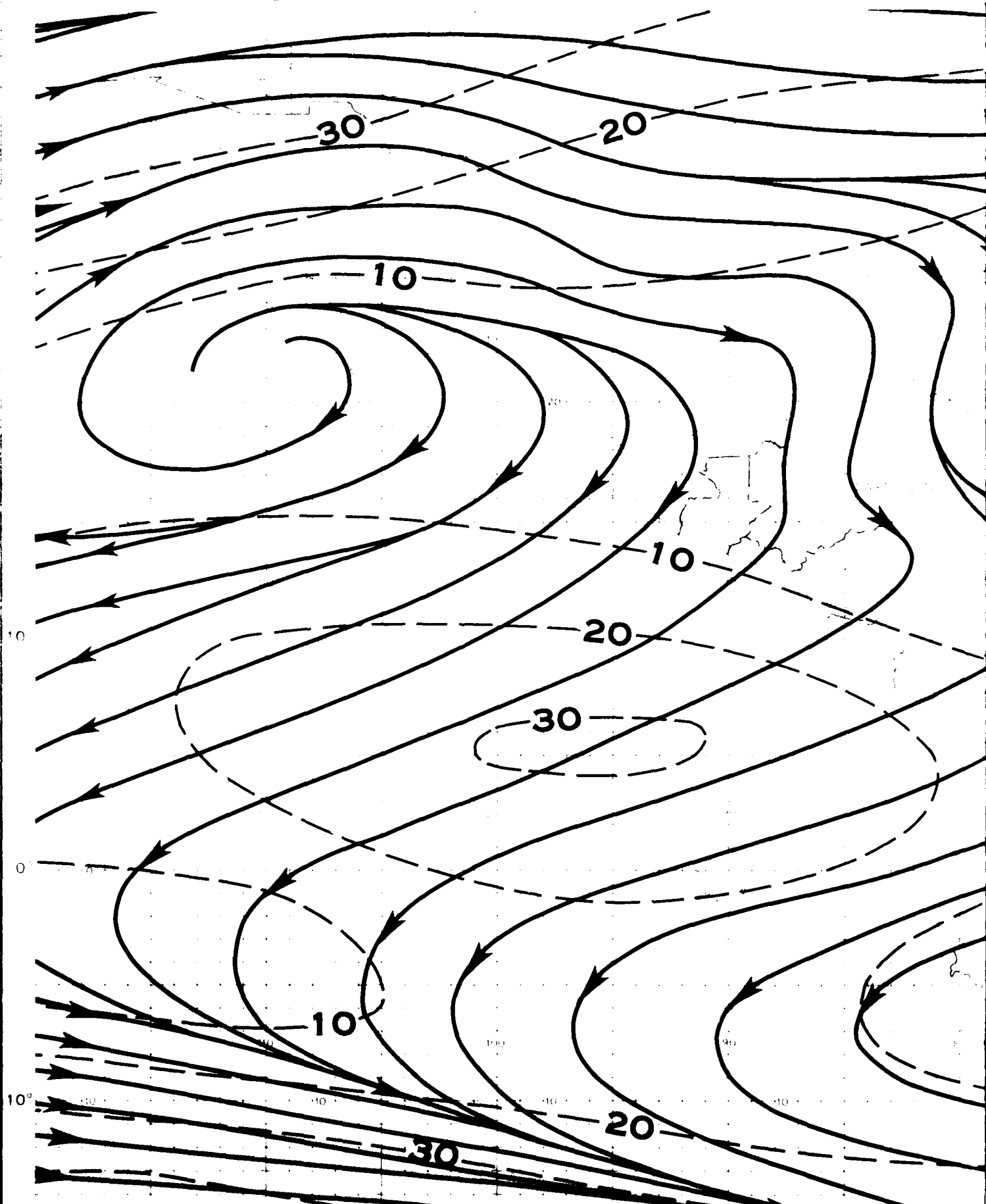
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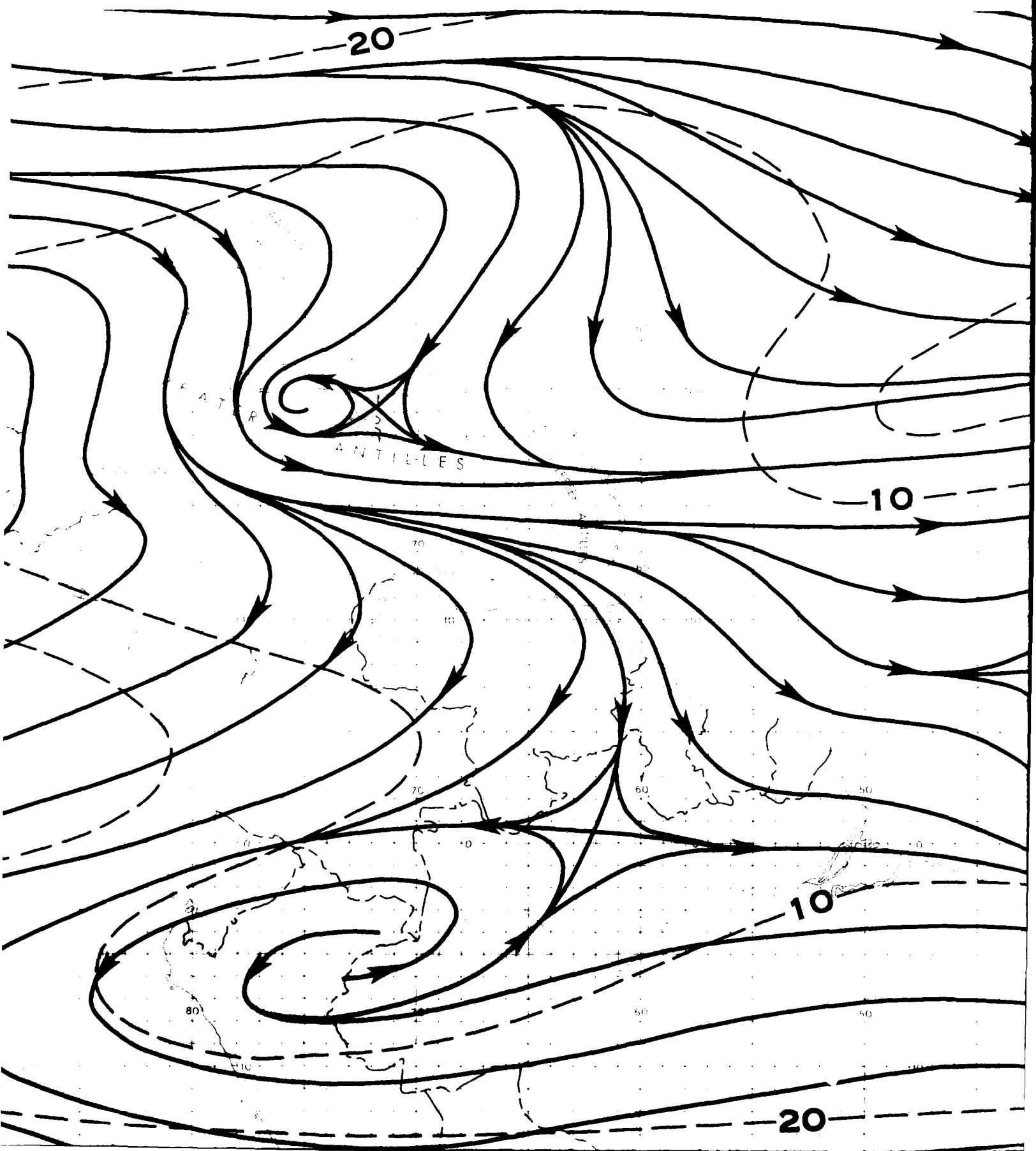
MULW-208E

10

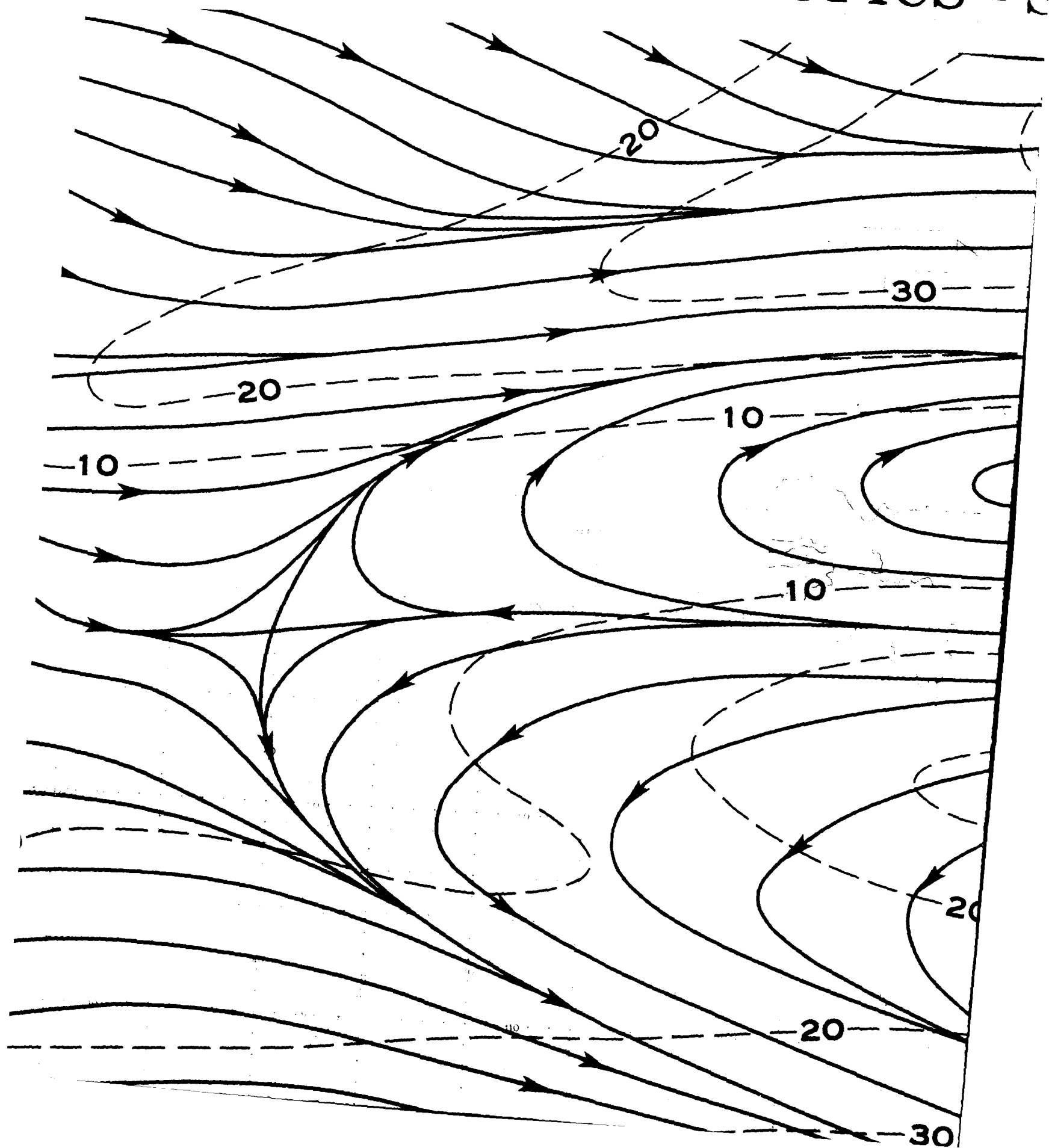
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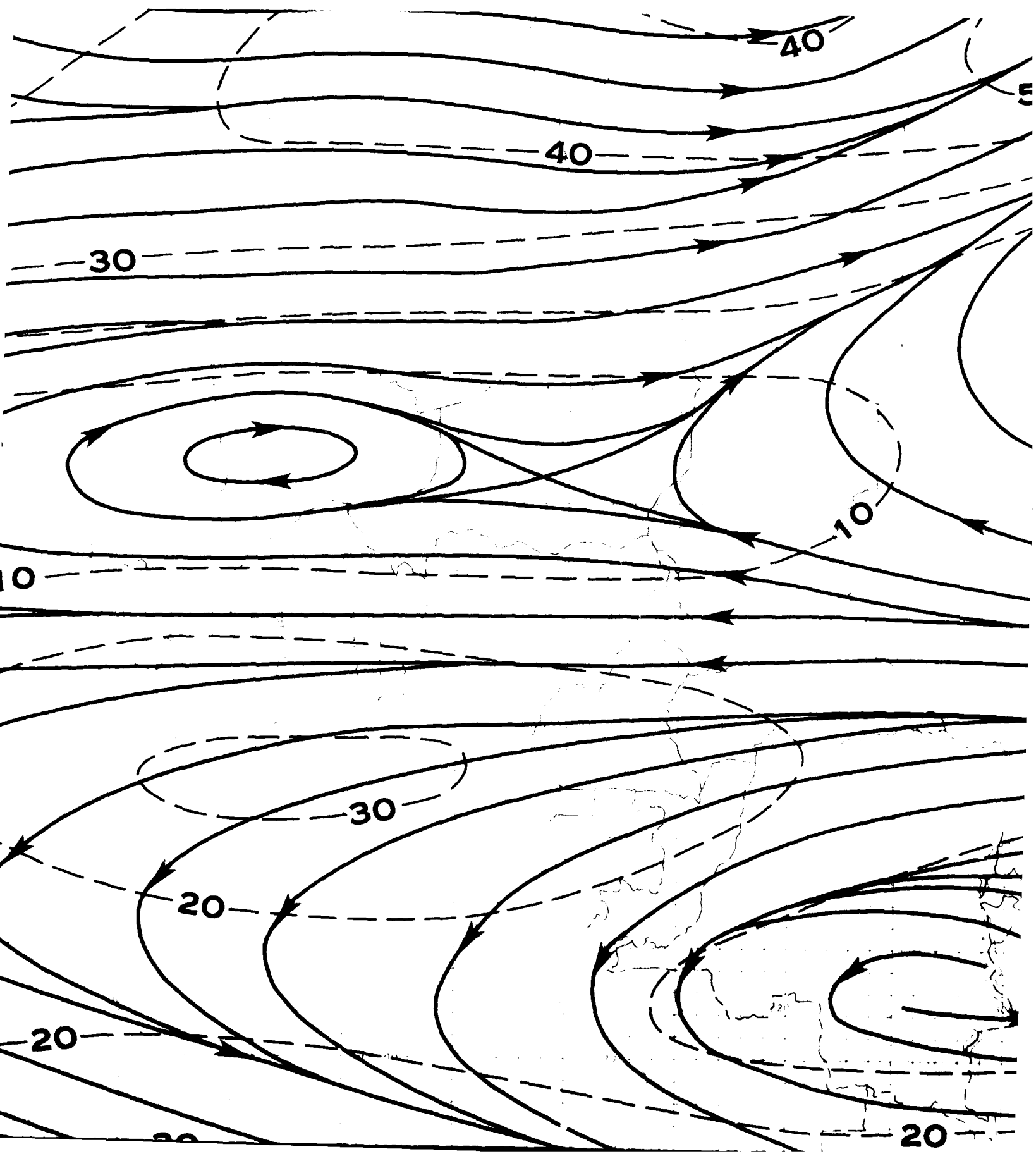
# MEAN UPPER LEVEL WINDS



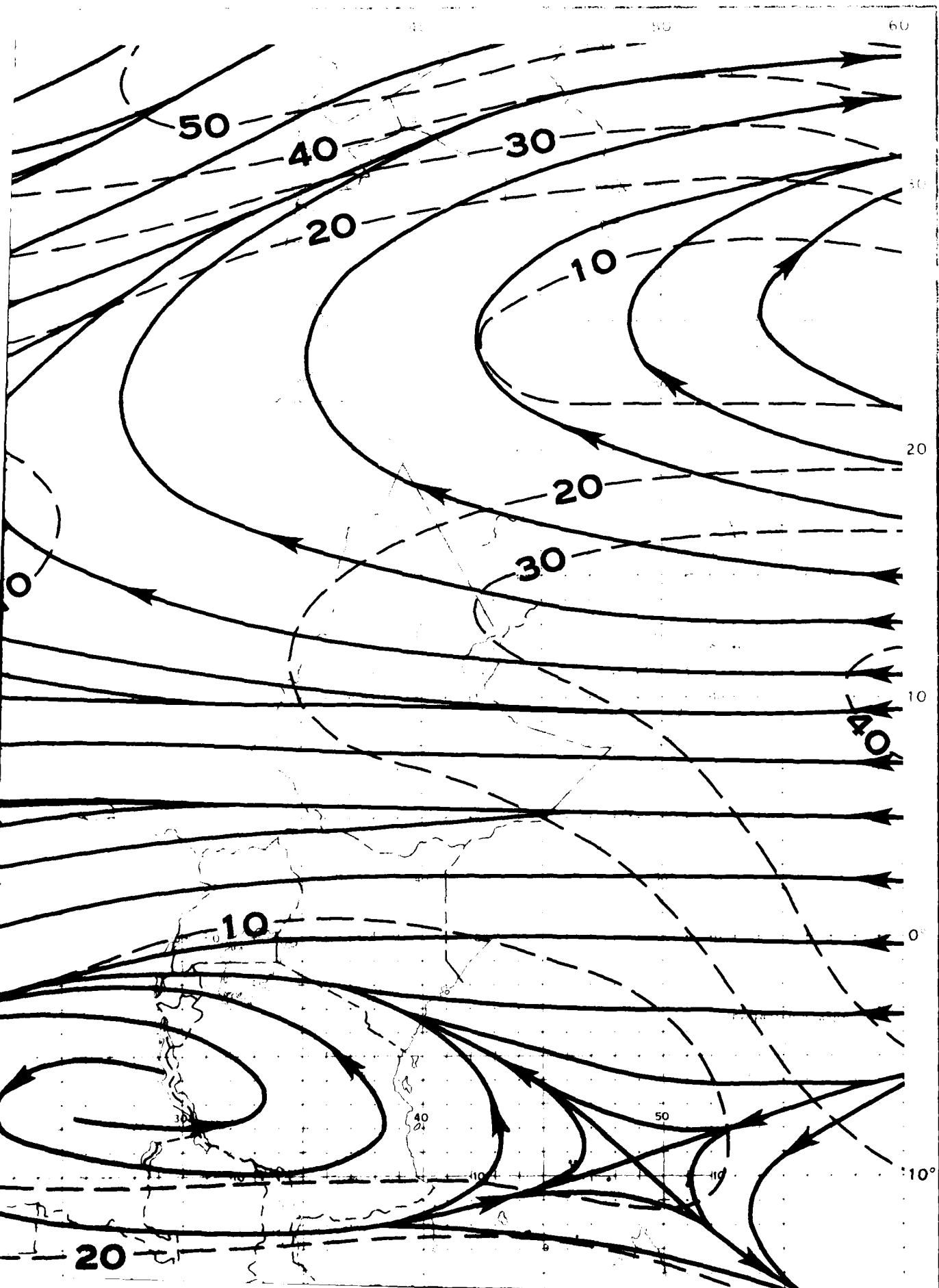
# VINDS over GLOBAL TROPICS - S



# PICS - SEPTEMBER 200mb







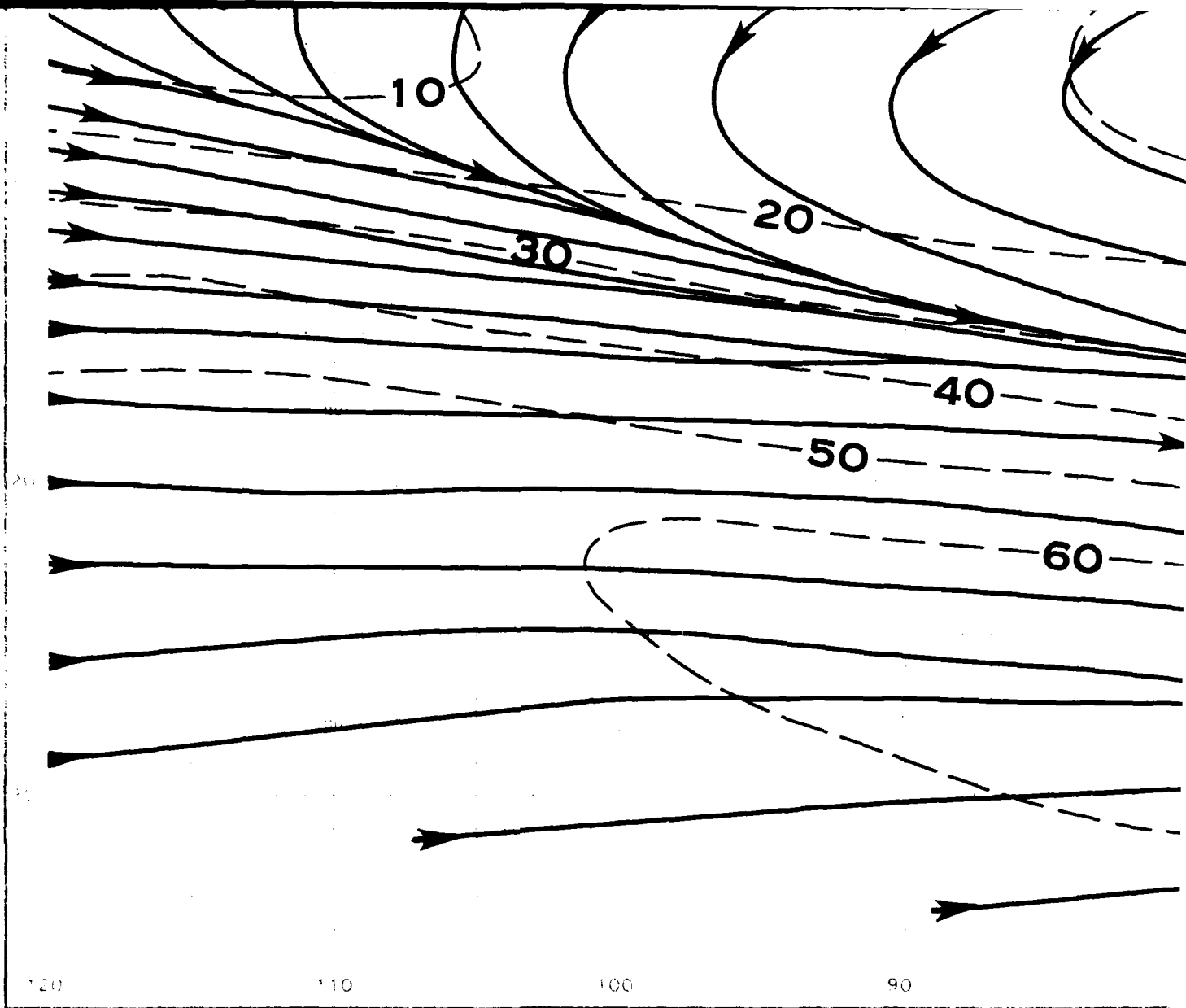
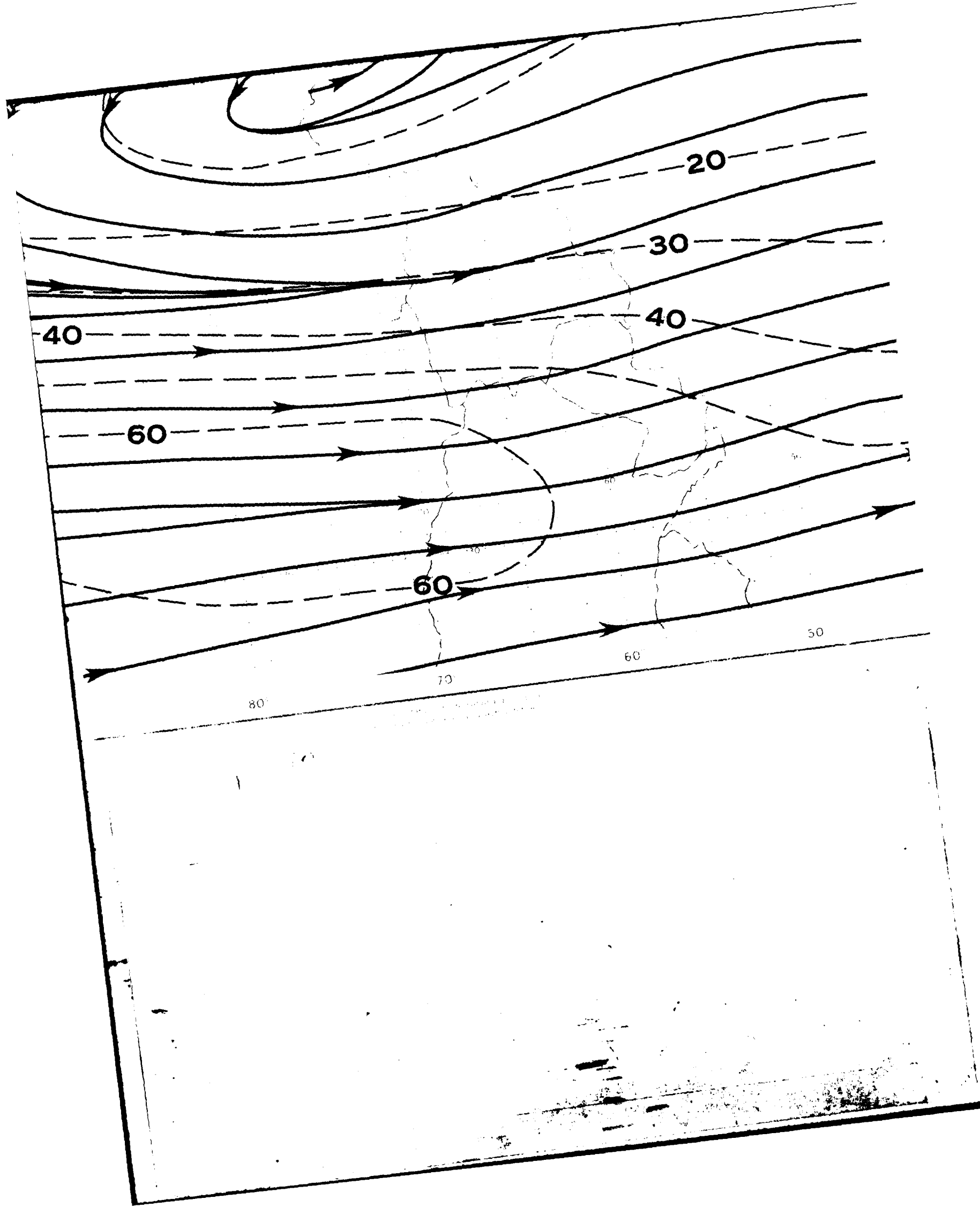
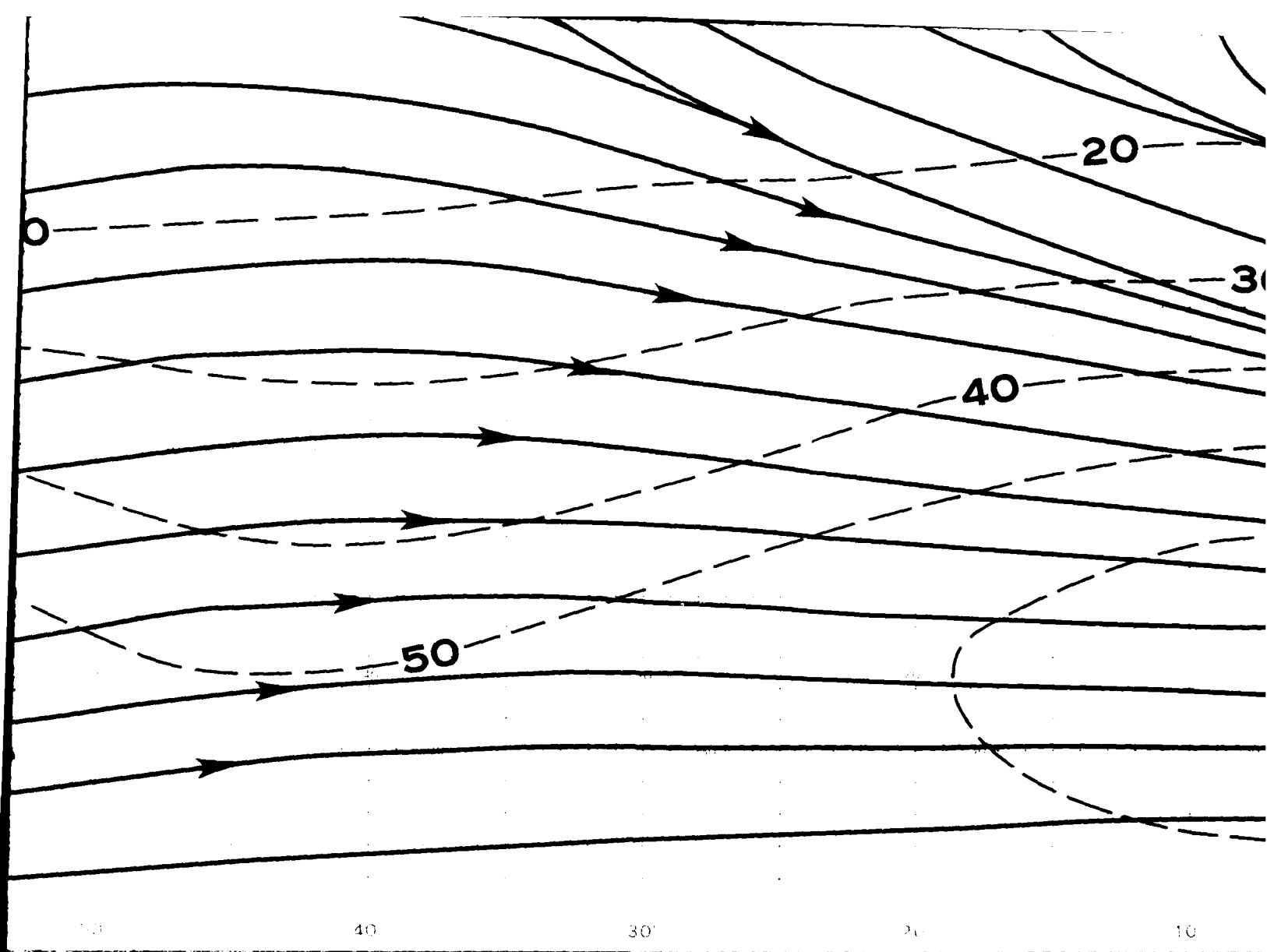


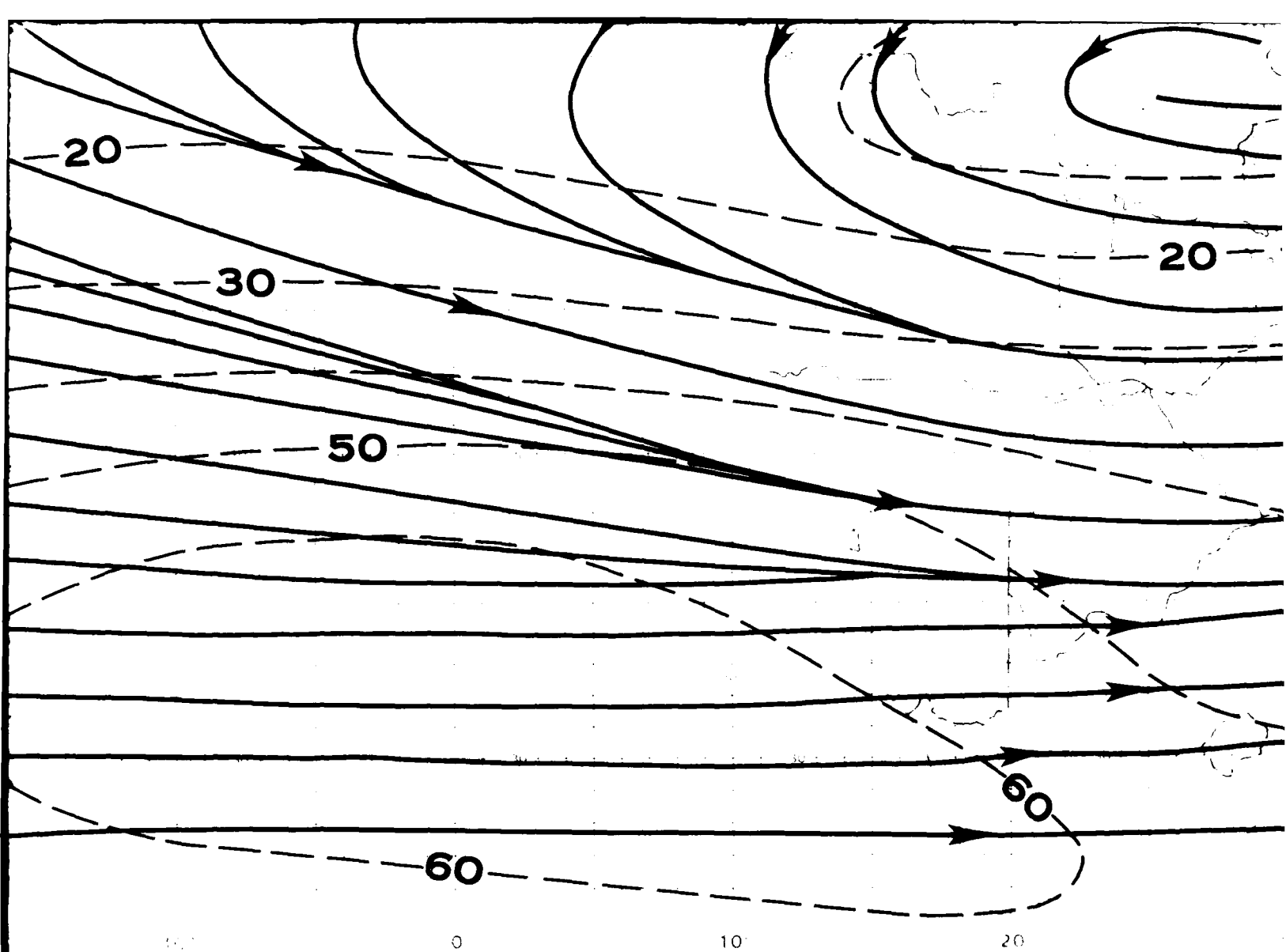
Figure 1. Streamlines of the velocity field in the case of a uniform flow of the fluid towards the wall.





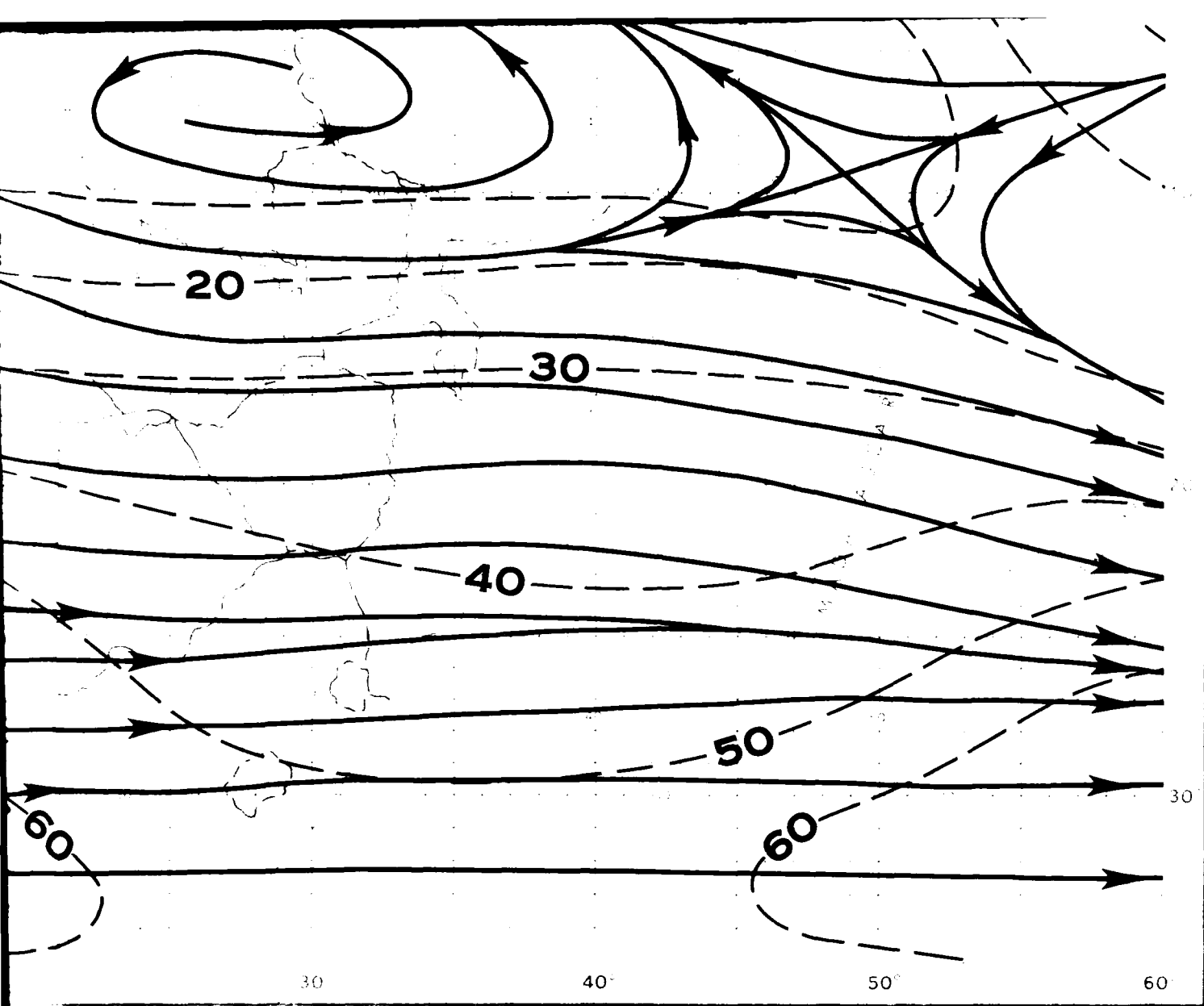
U.S. GEOLOGICAL SURVEY  
WATER RESOURCES DIVISION  
WASHINGTON, D.C. 20506

(8)



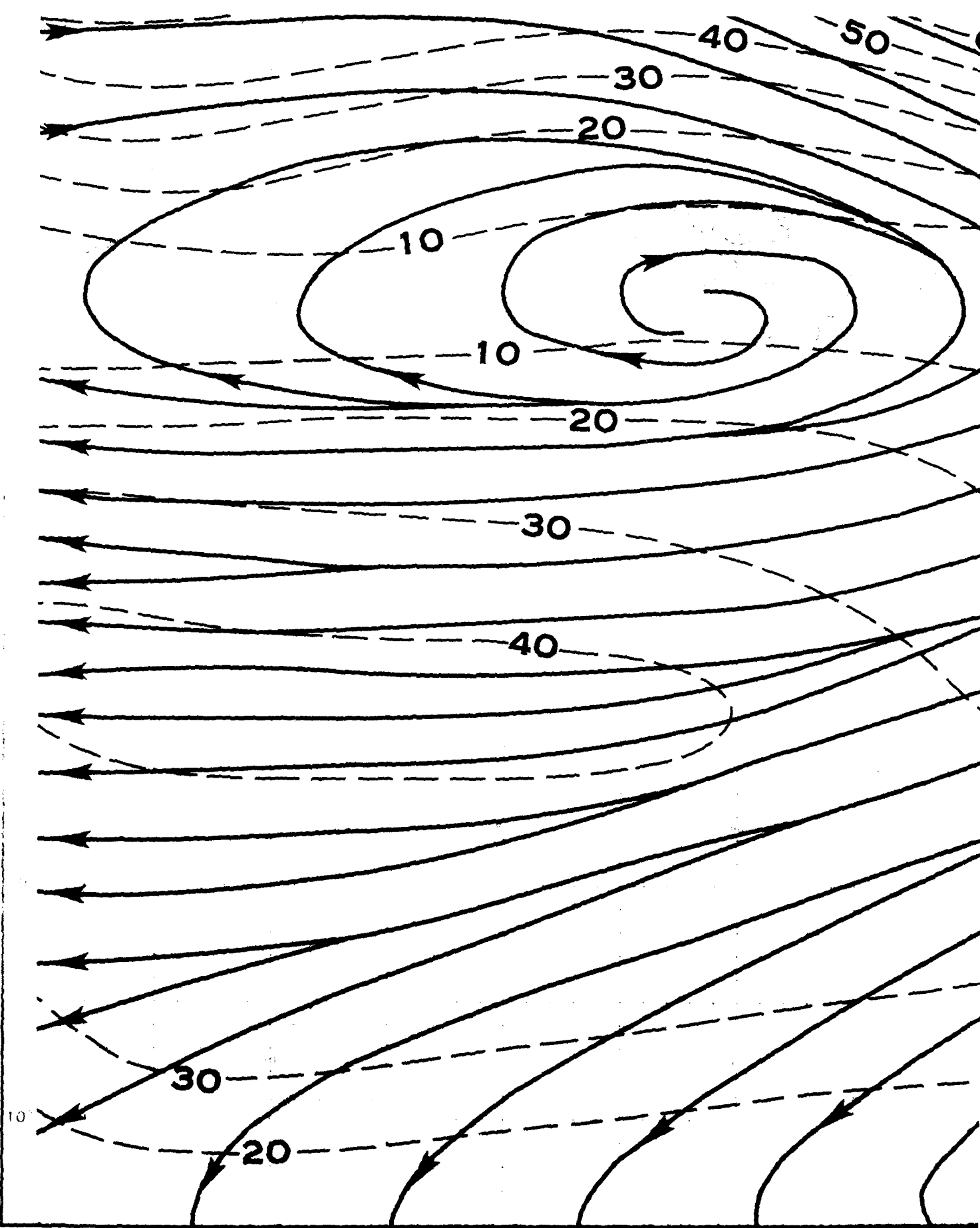
MAA 6 25

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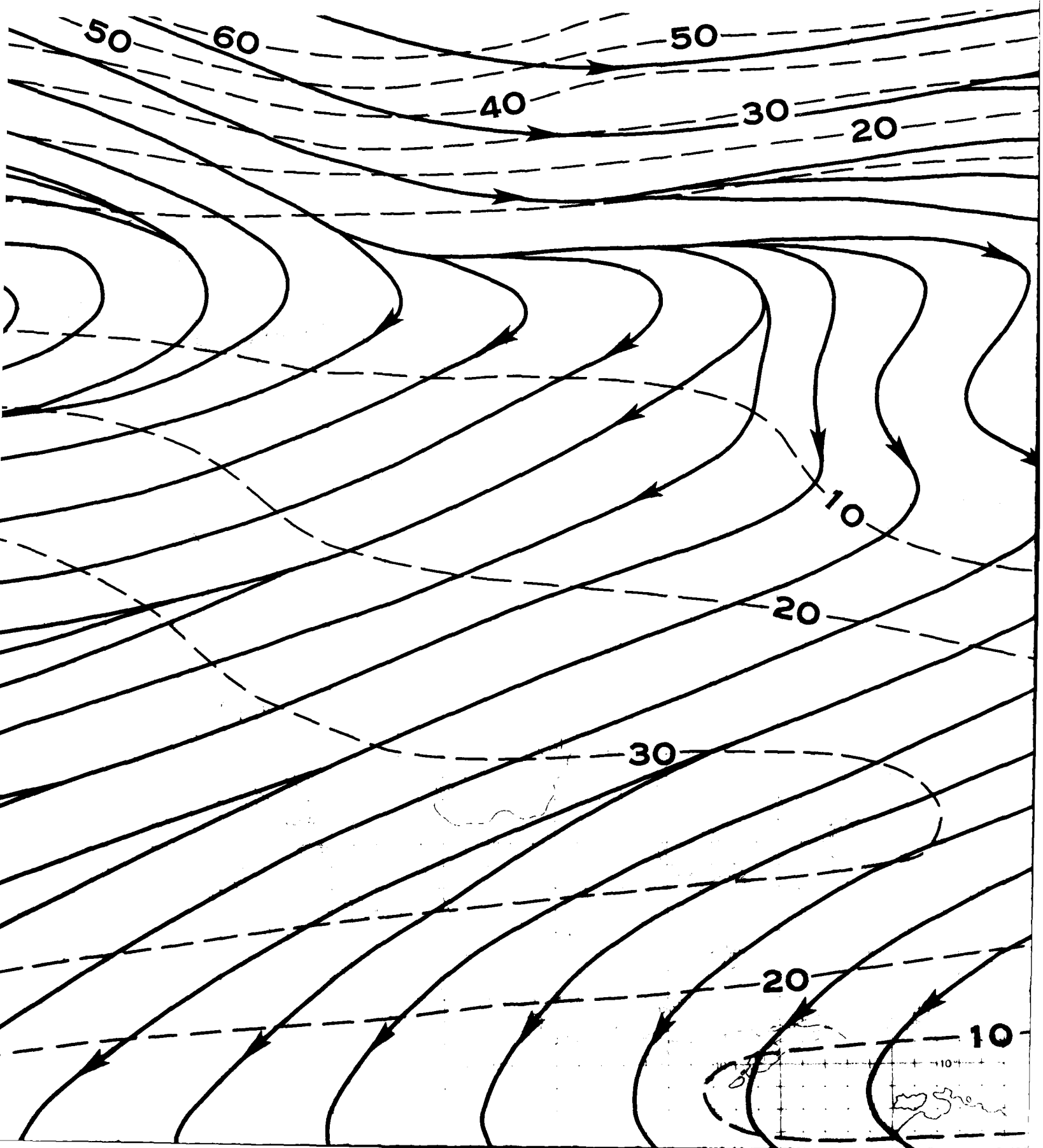


MULW-209W

M

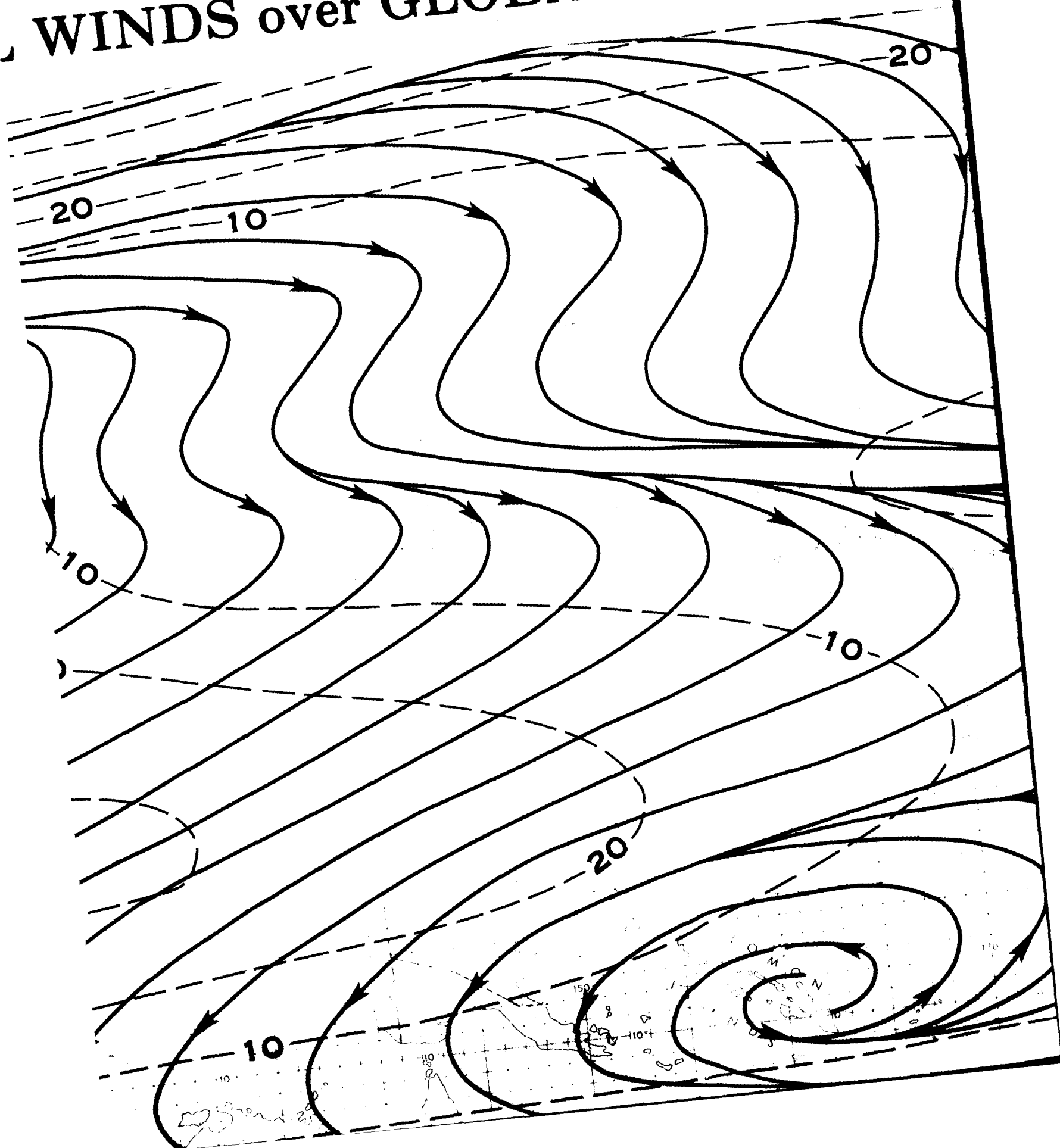


# MEAN UPPER LEVEL WIND

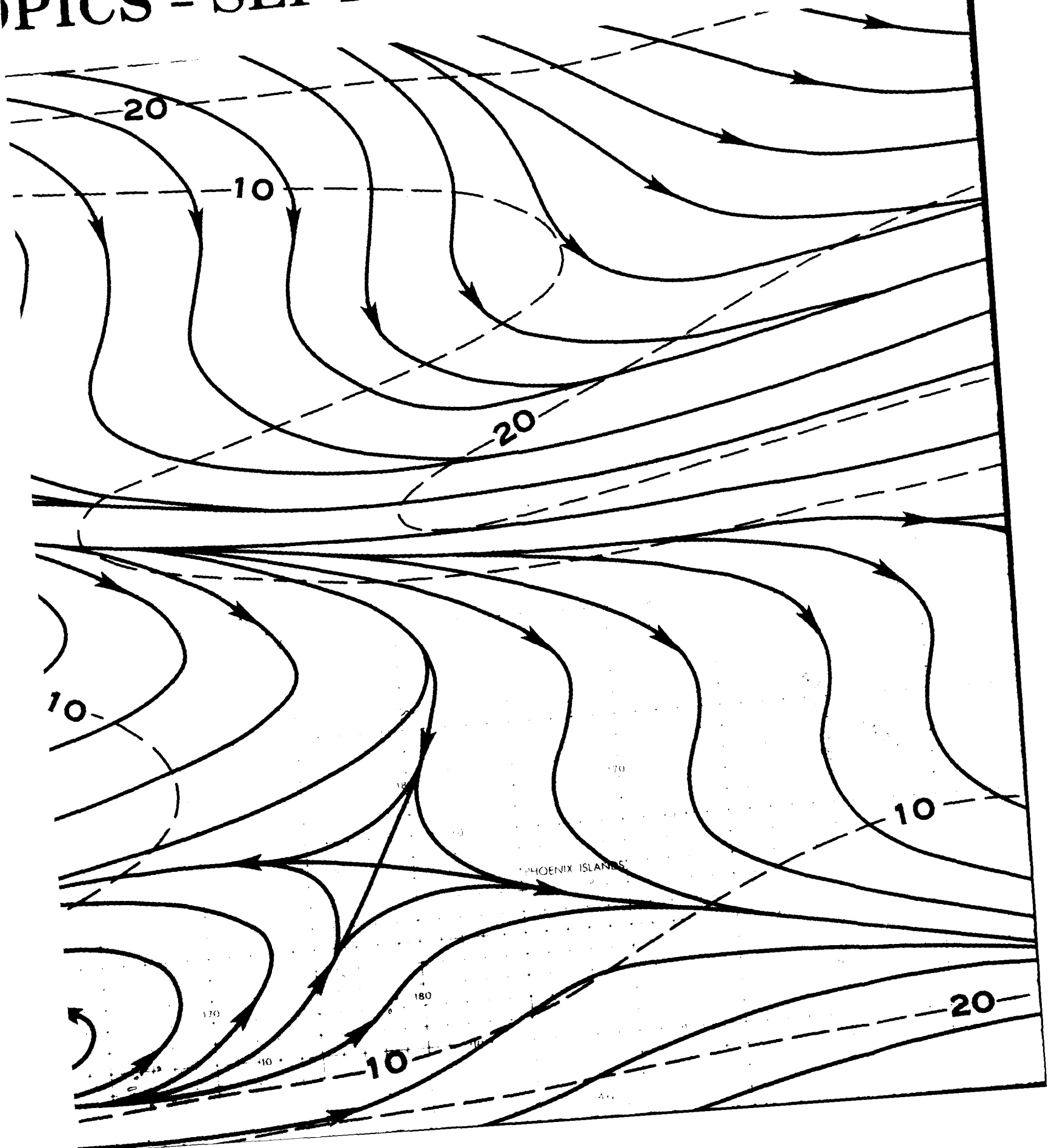


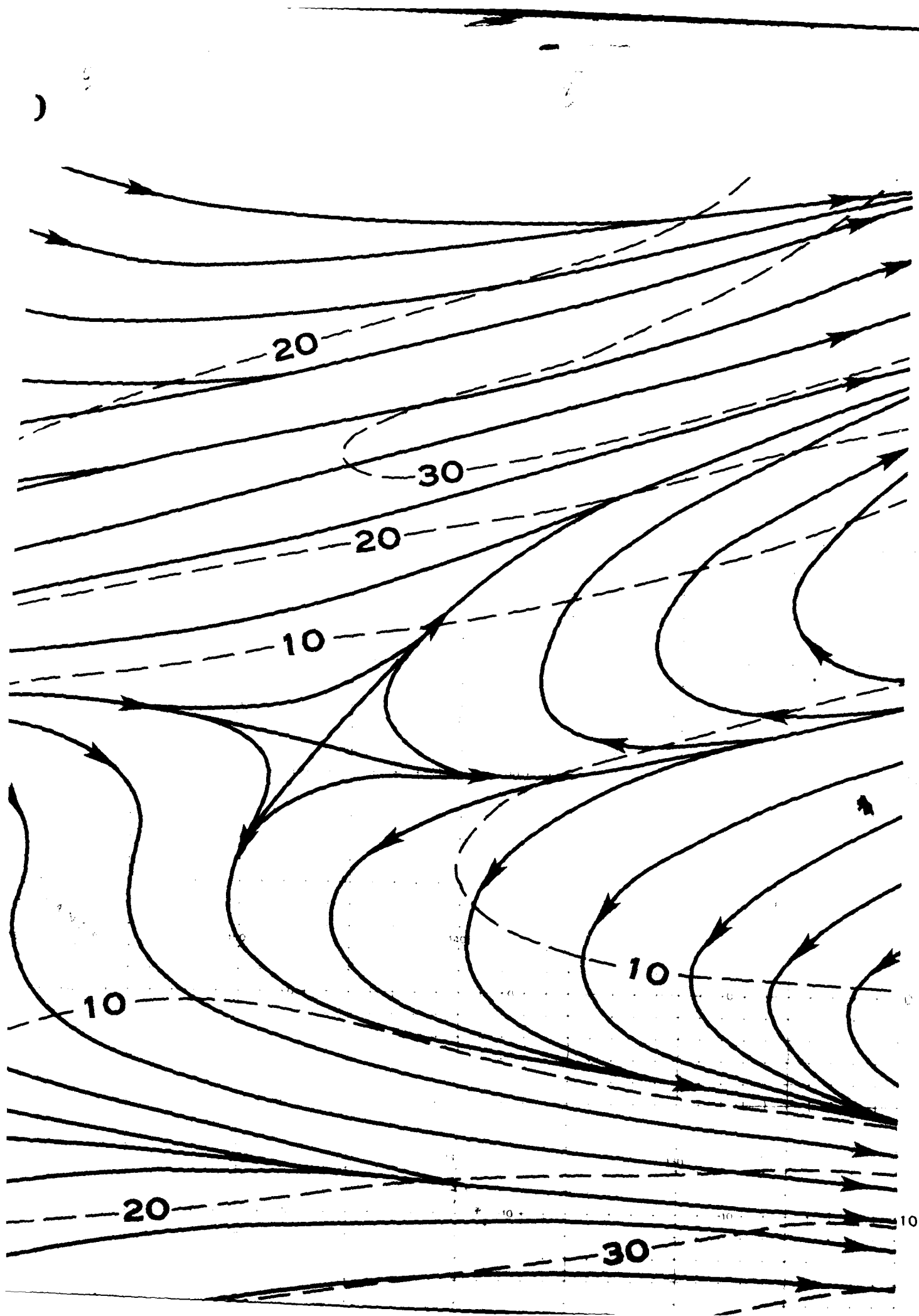


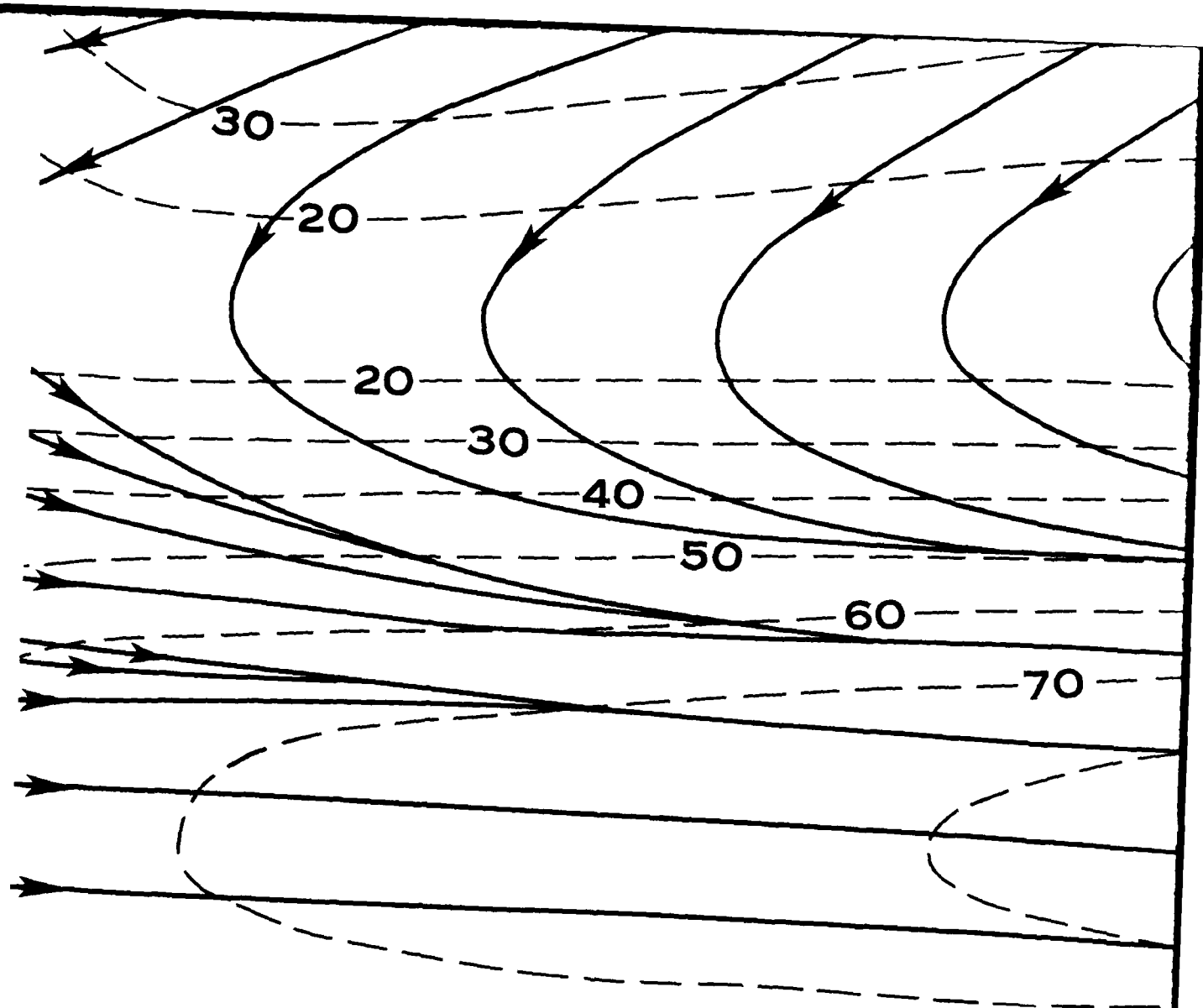
# WINDS over GLOBAL TROPICS



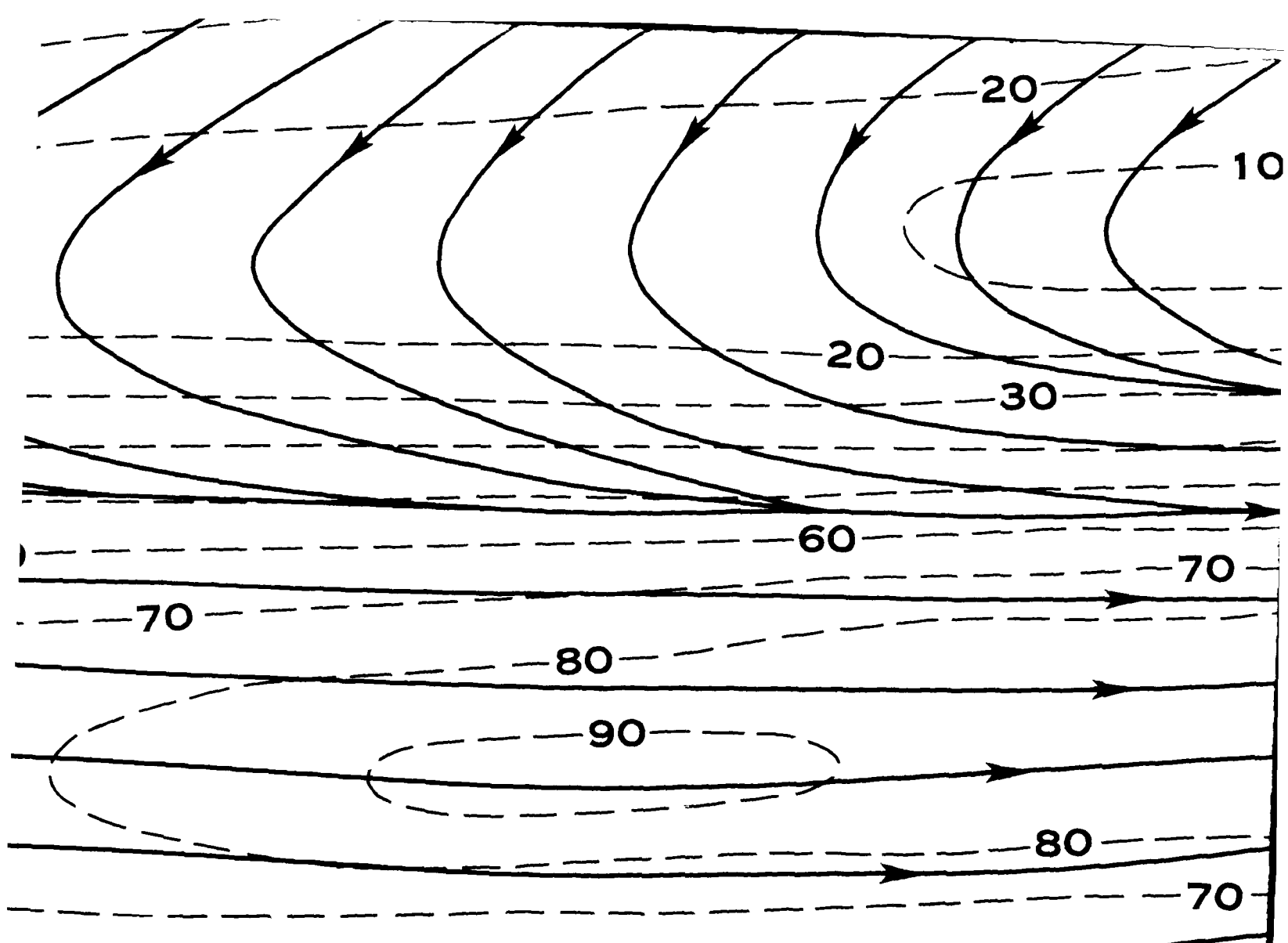
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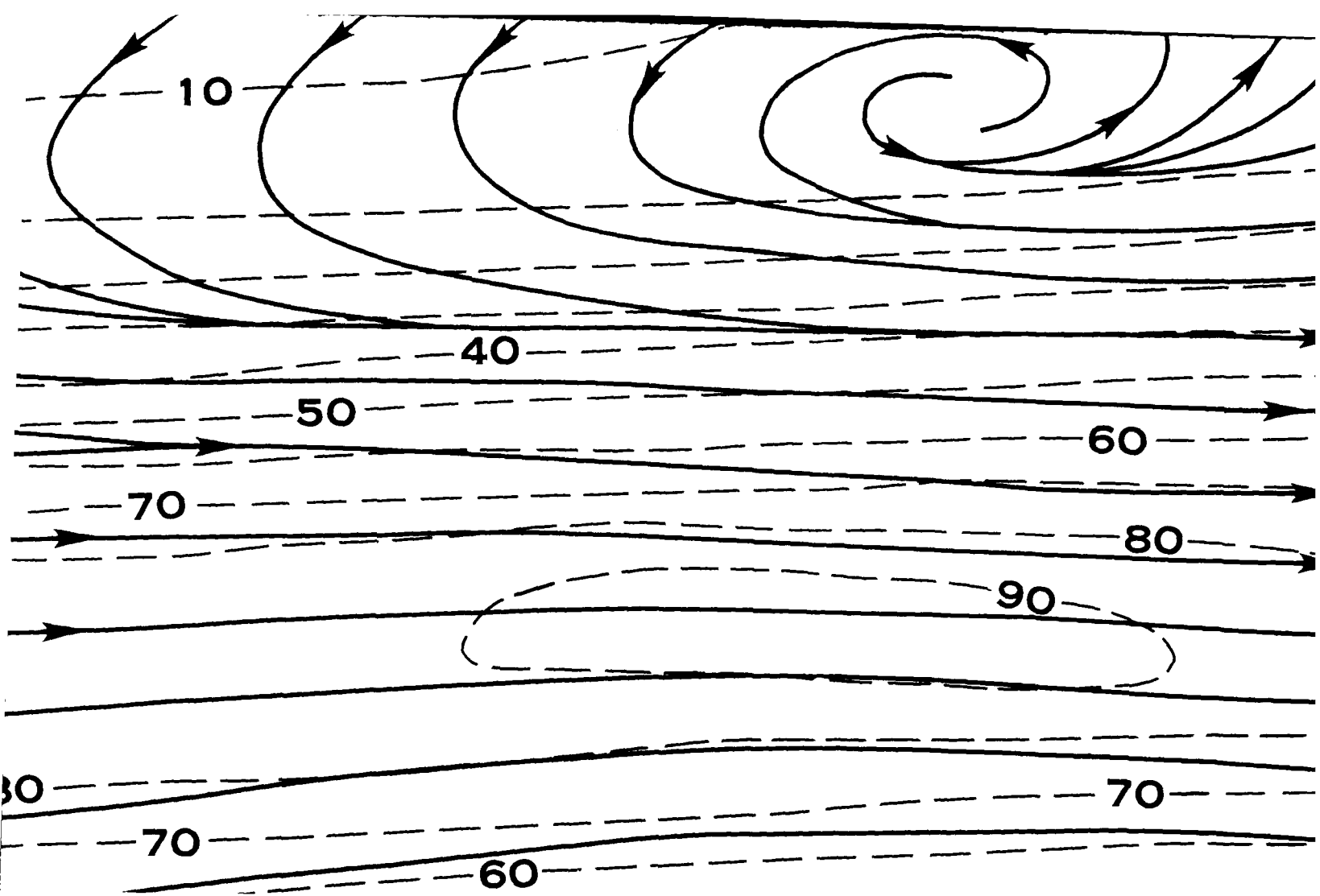


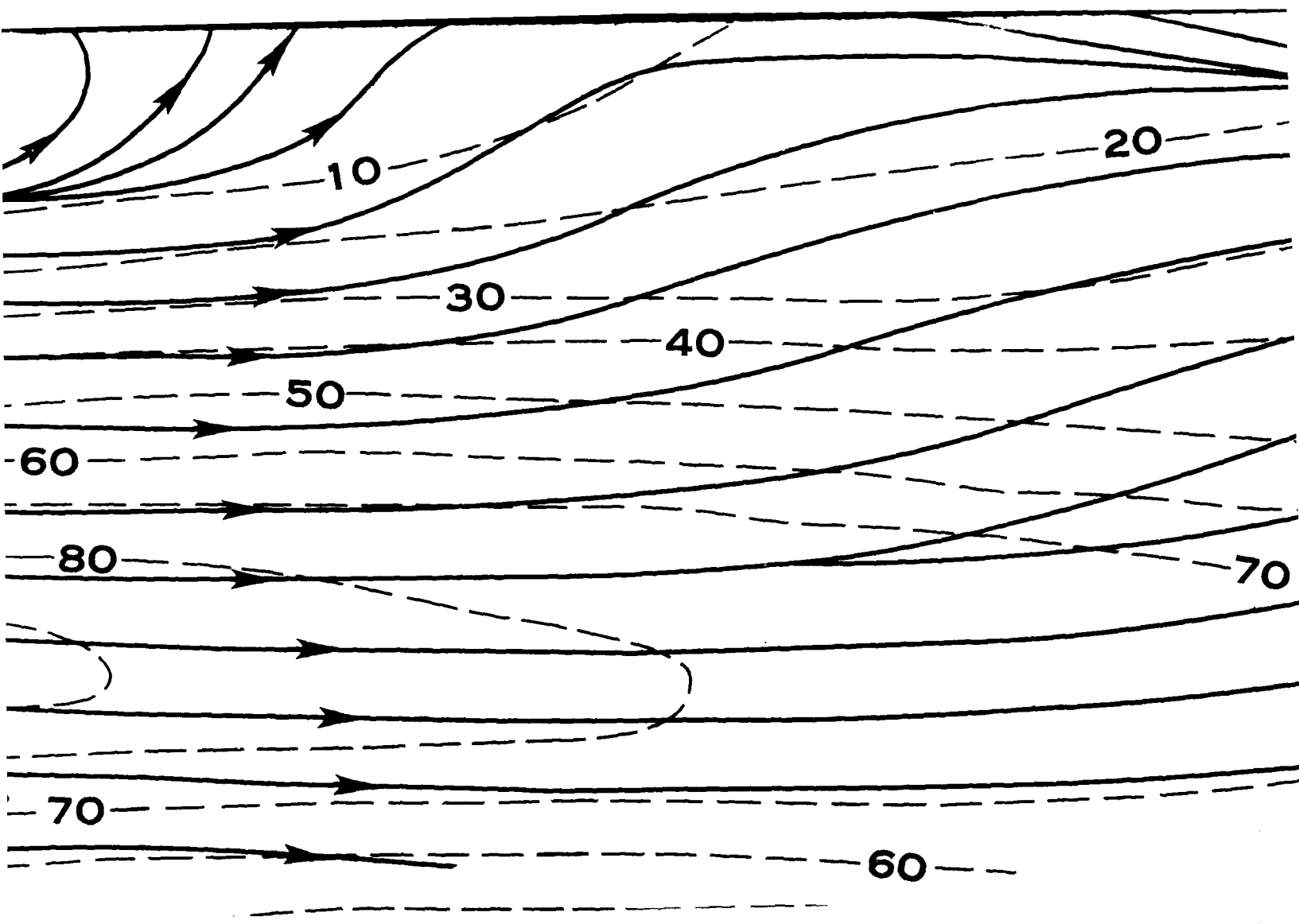




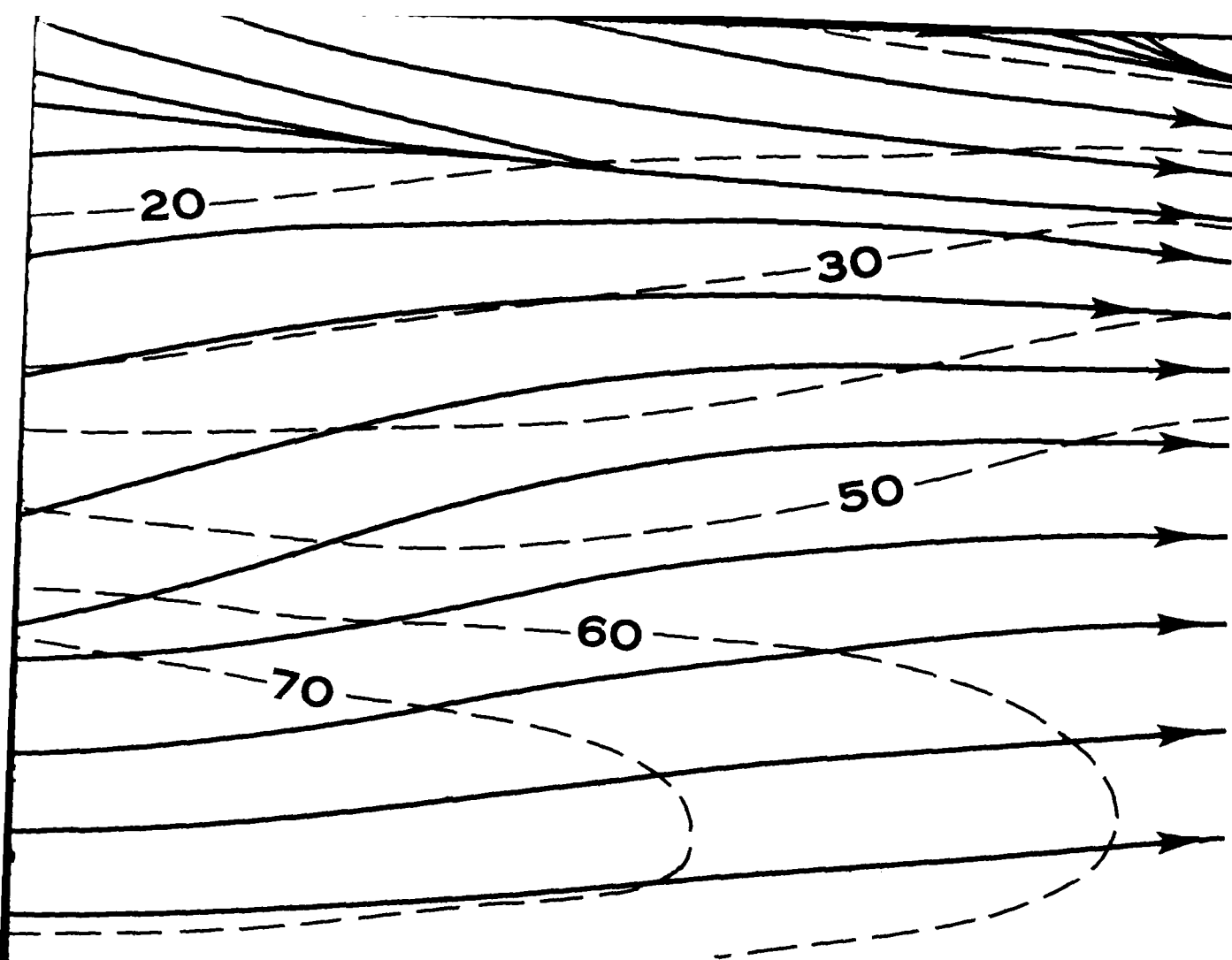
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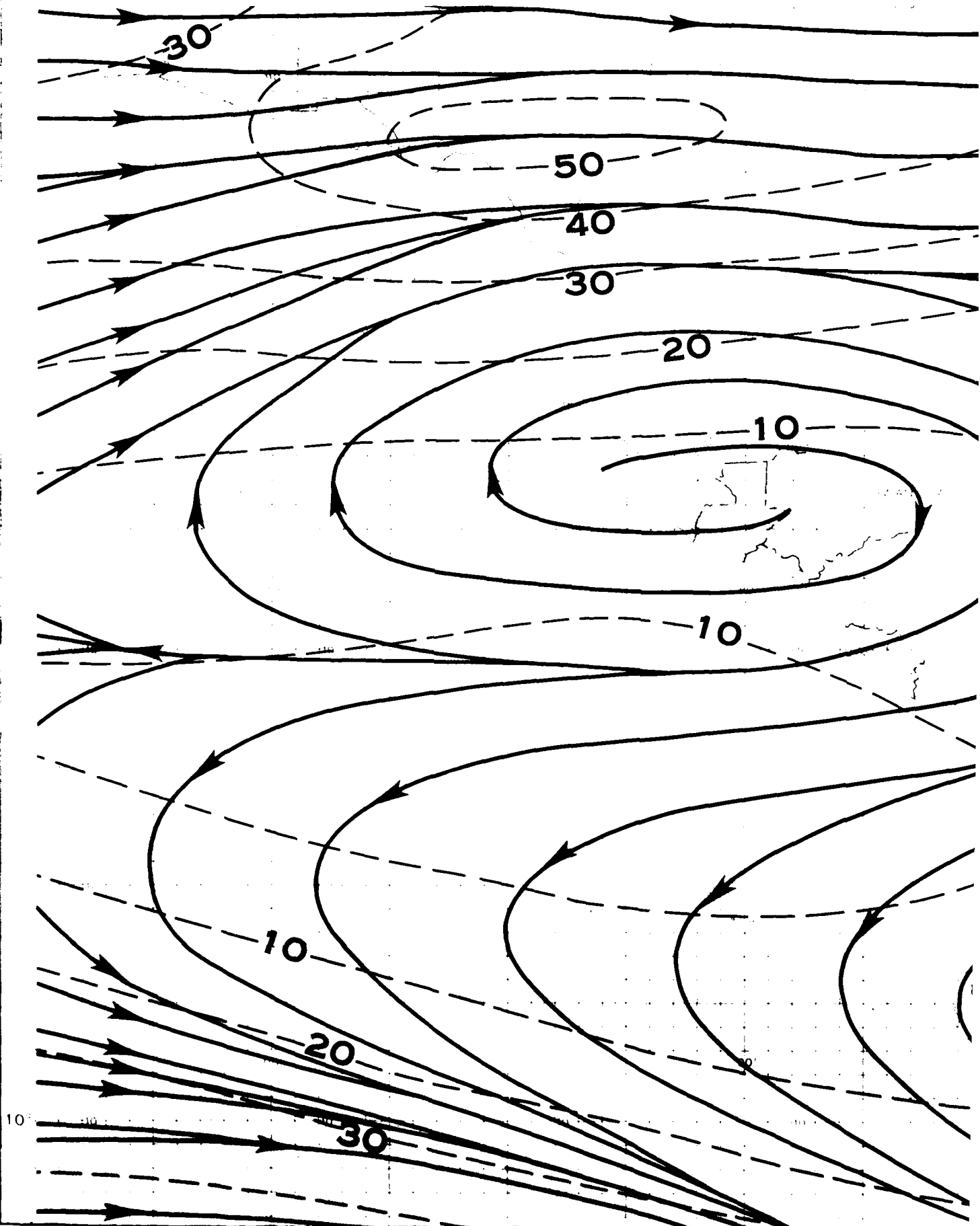


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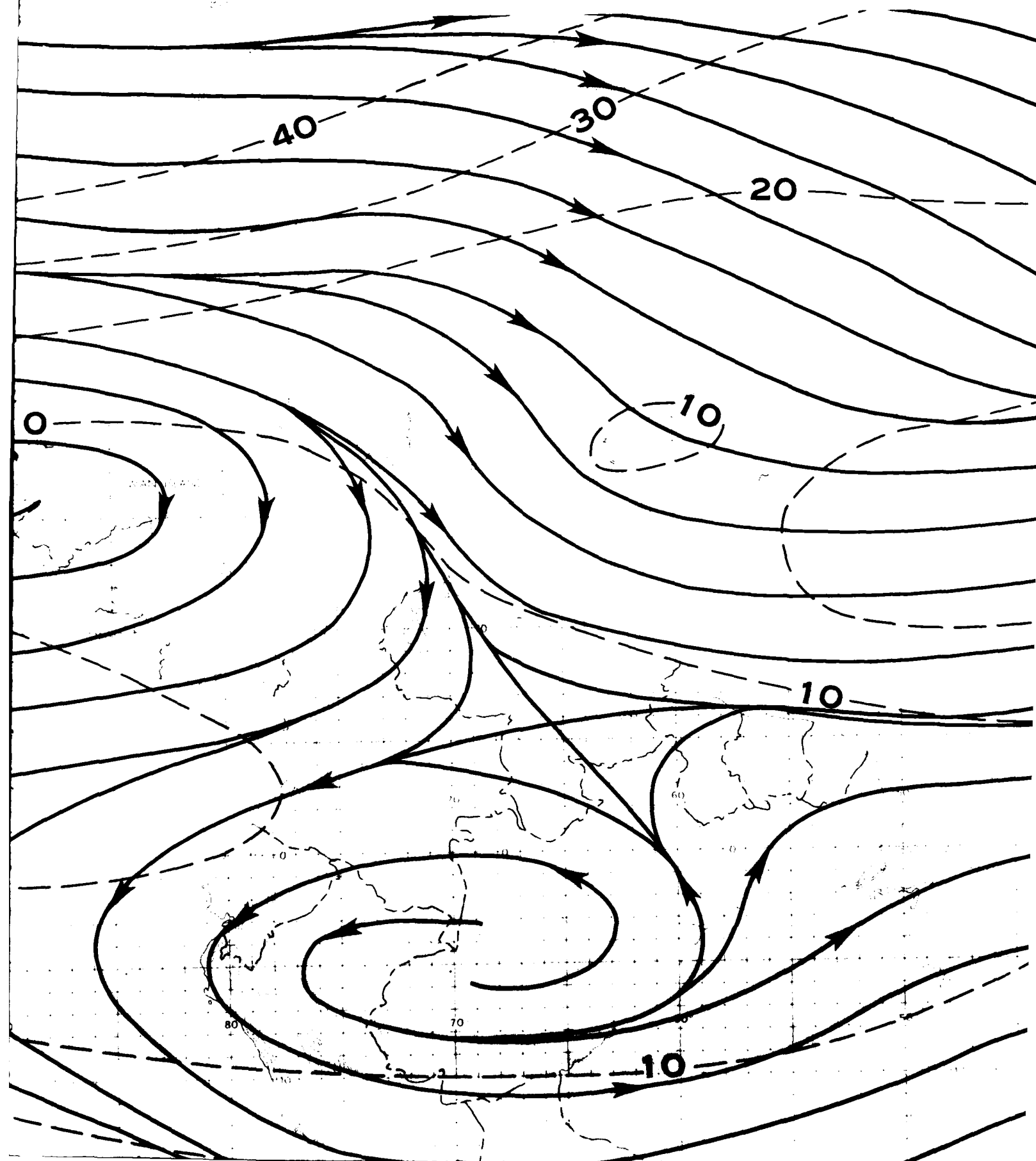


MULW-209E

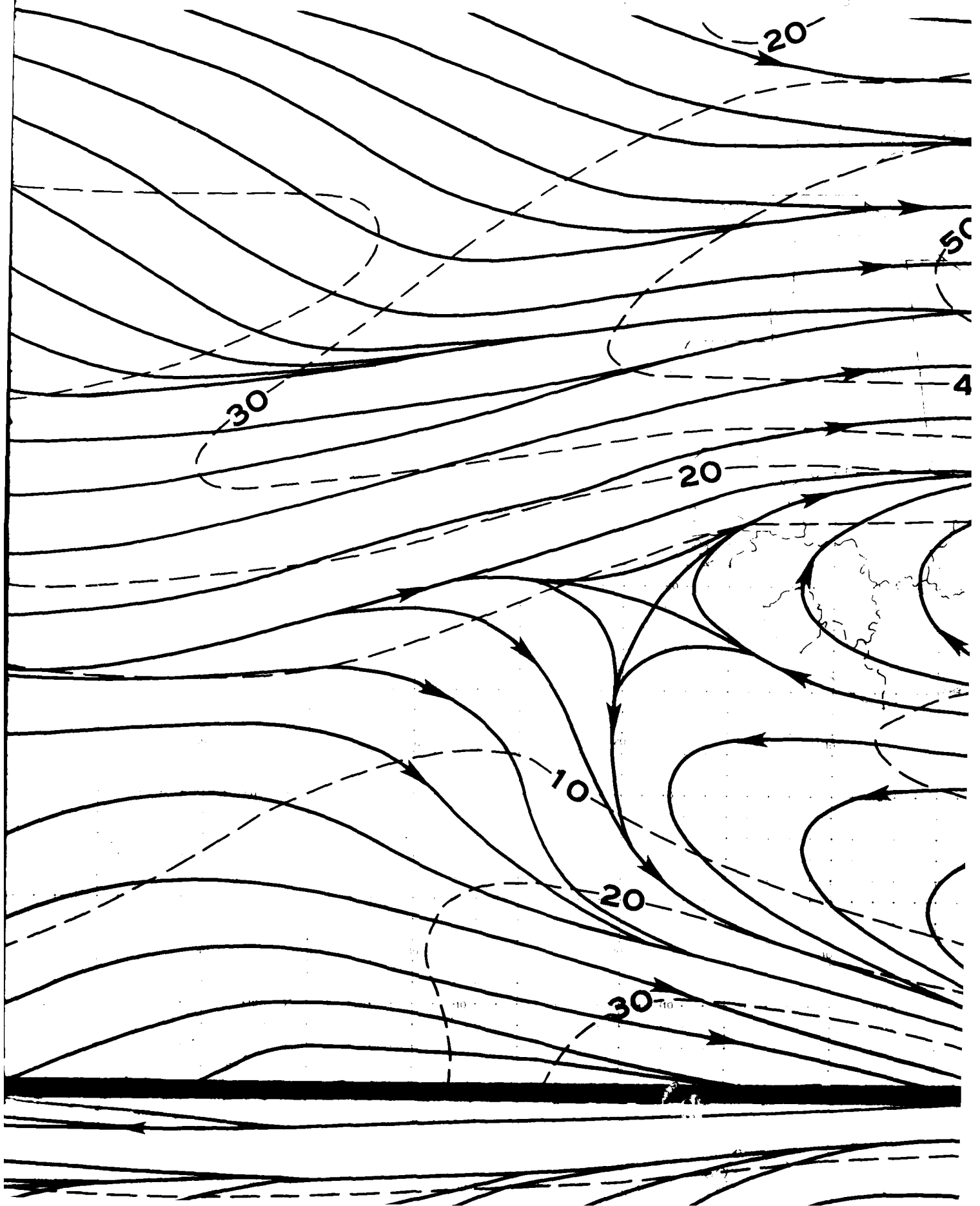




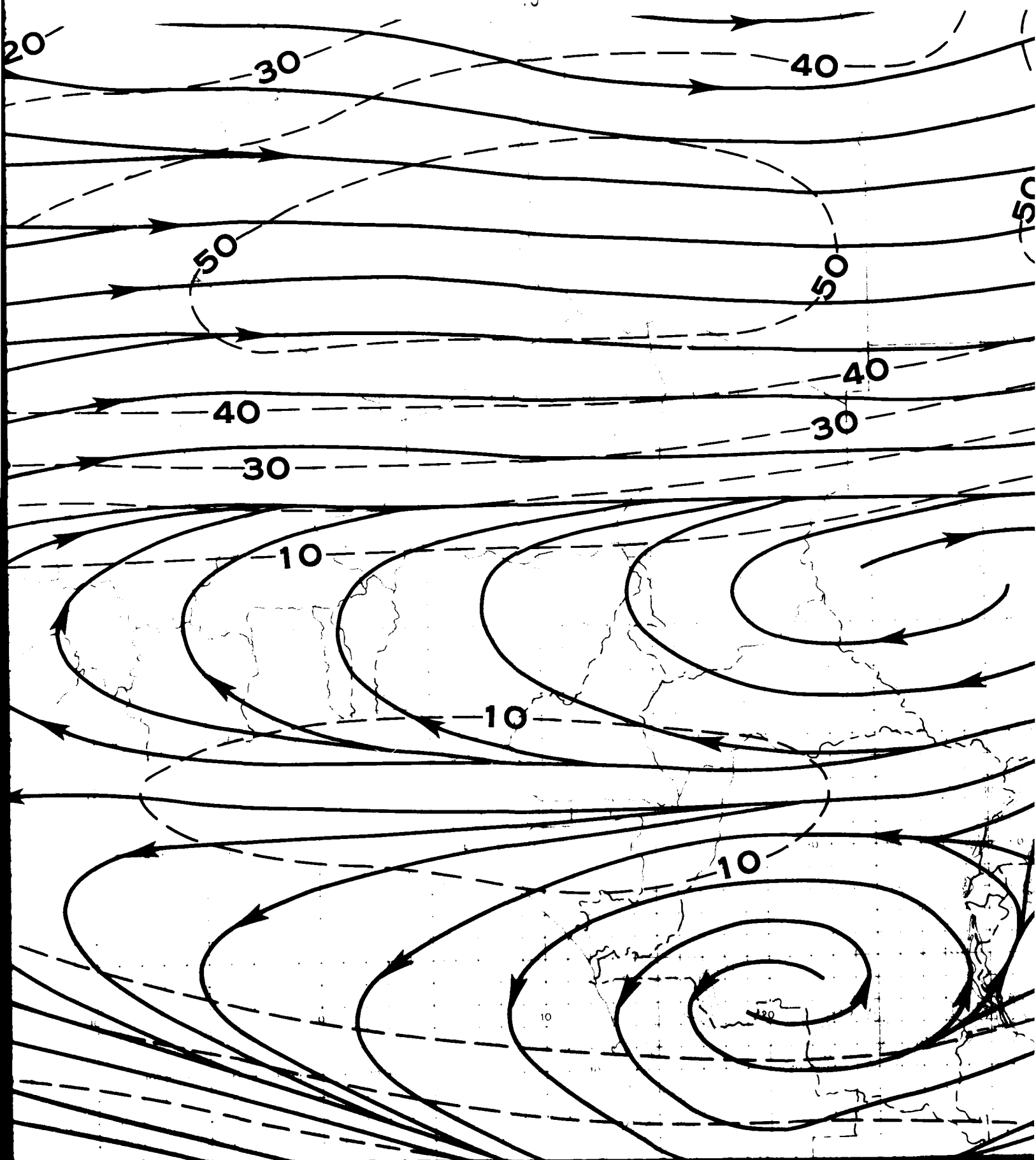
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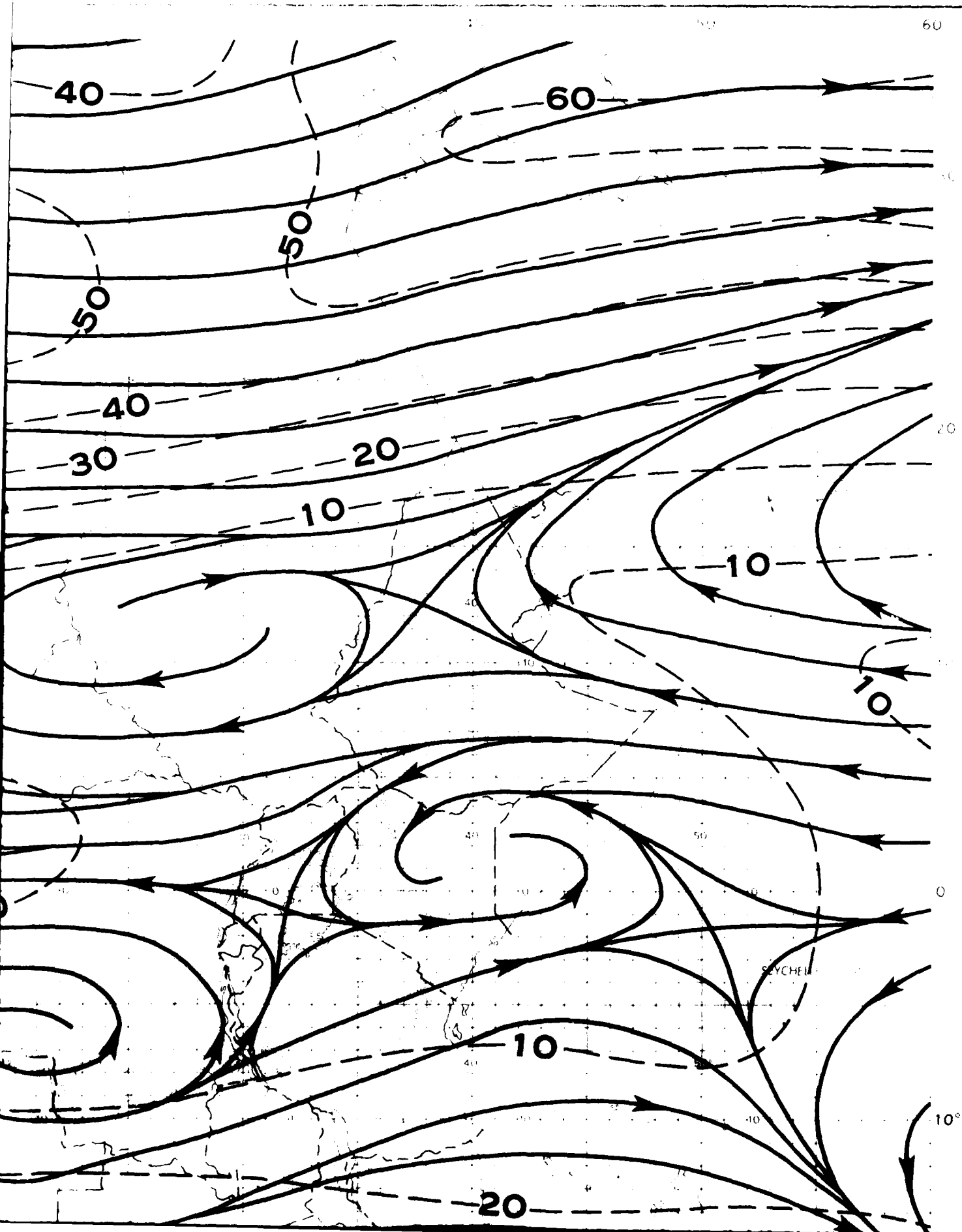


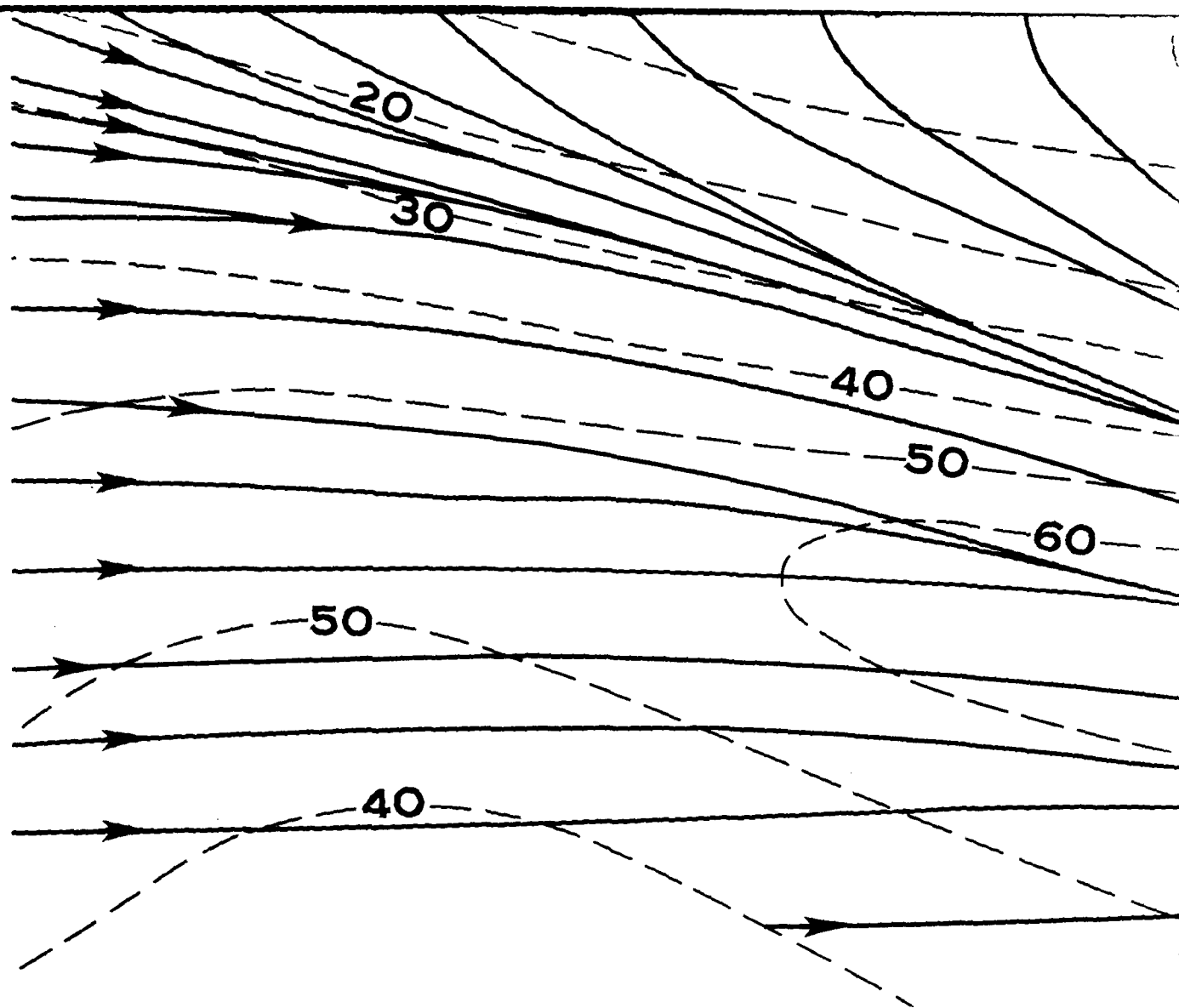
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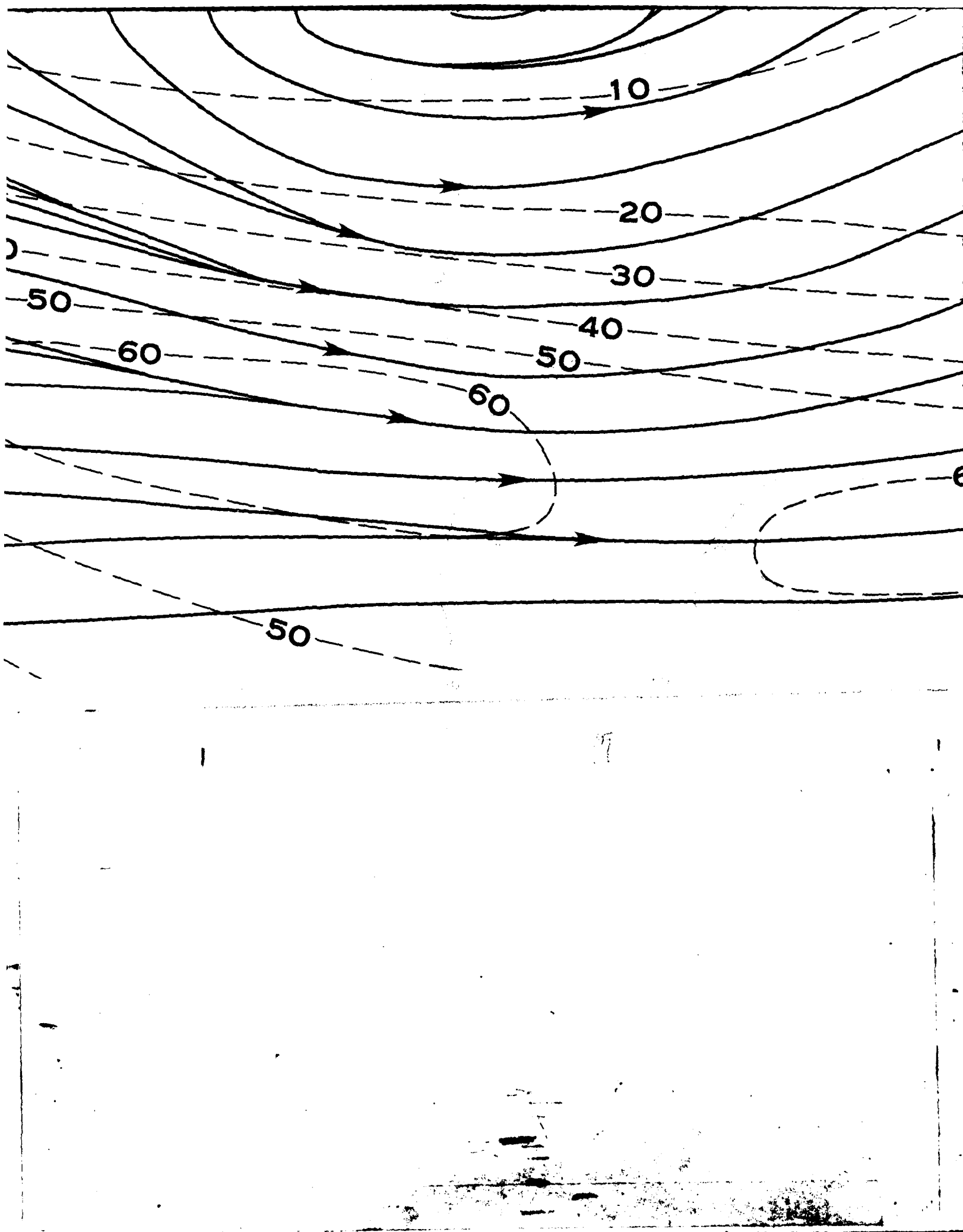


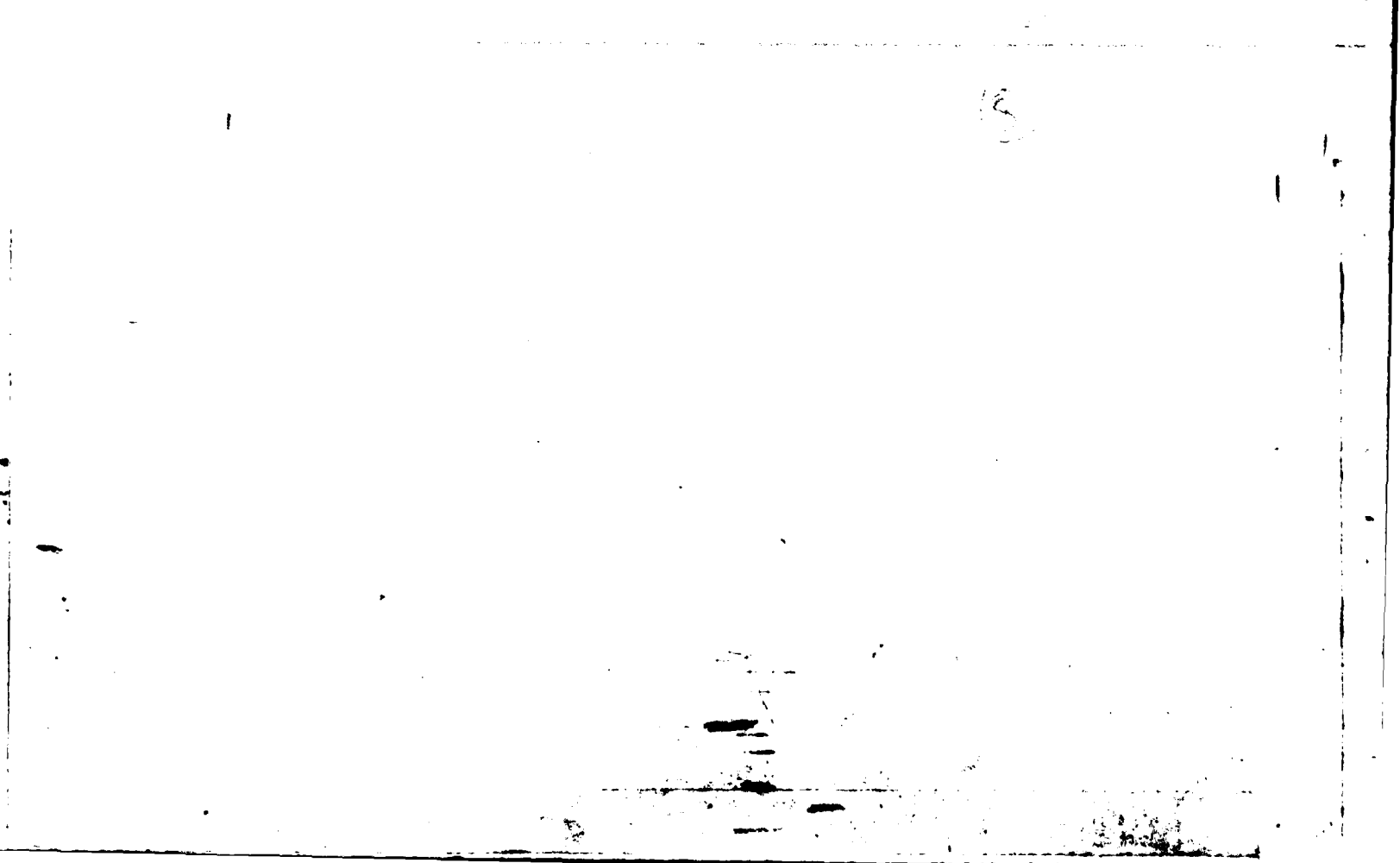
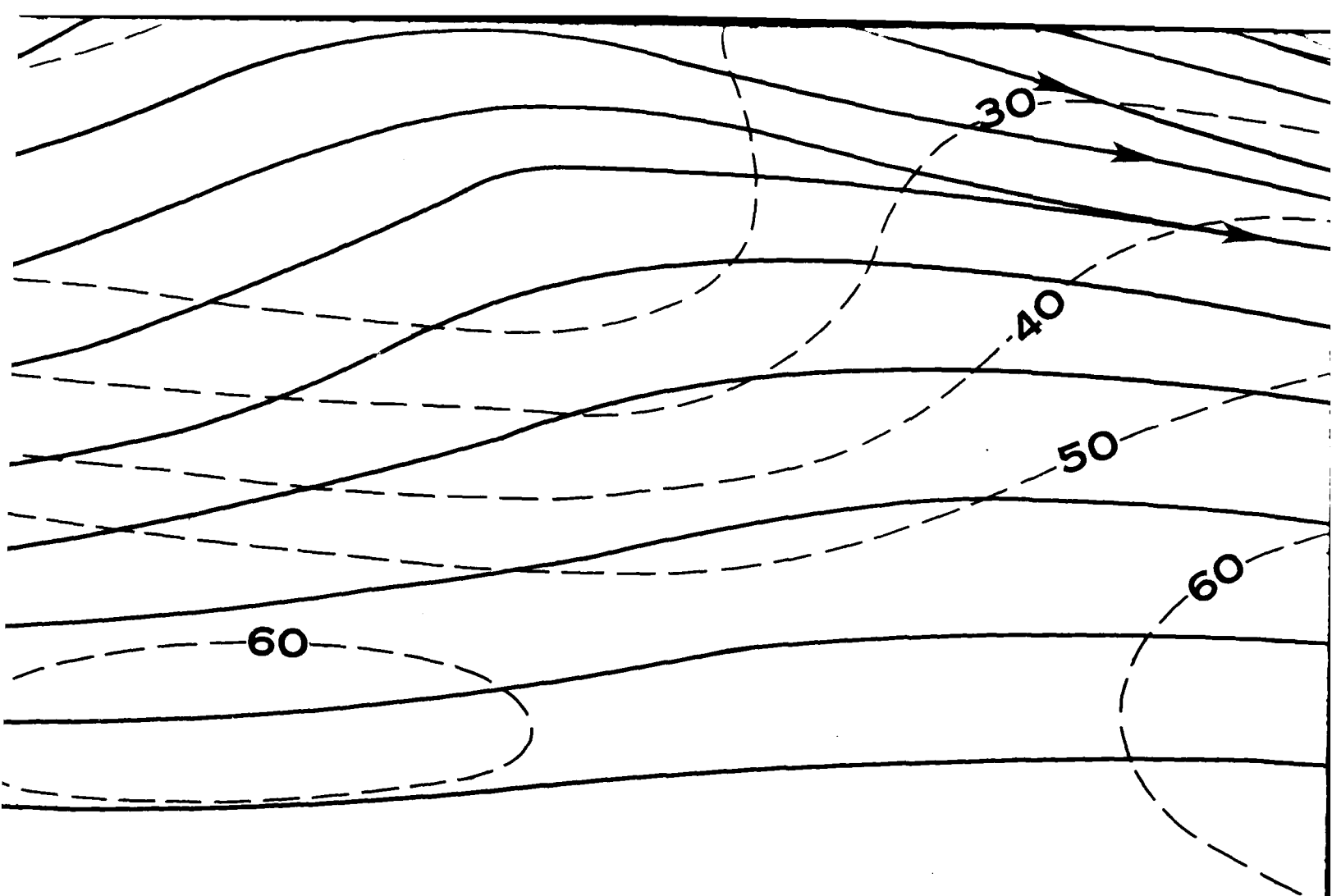
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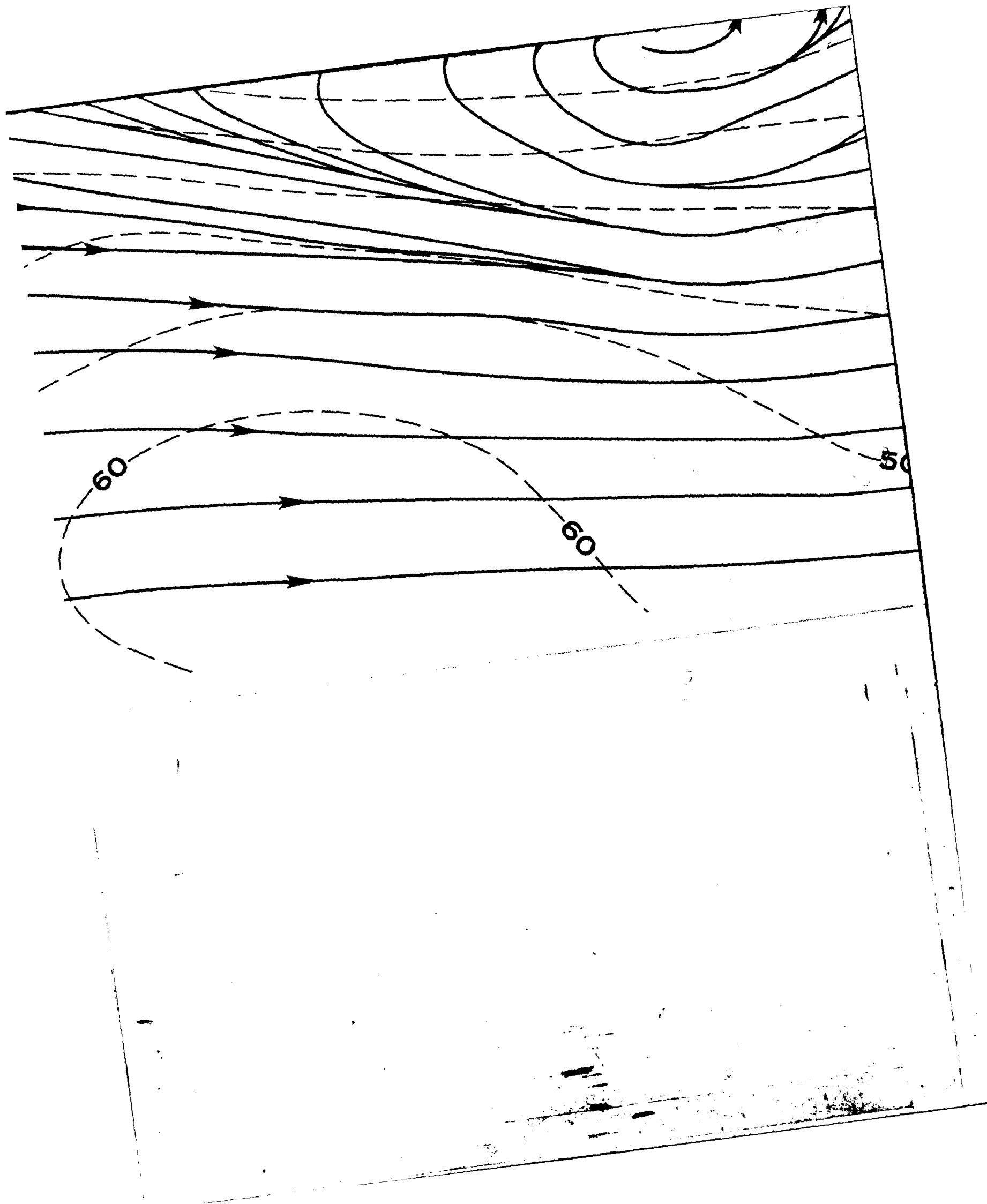


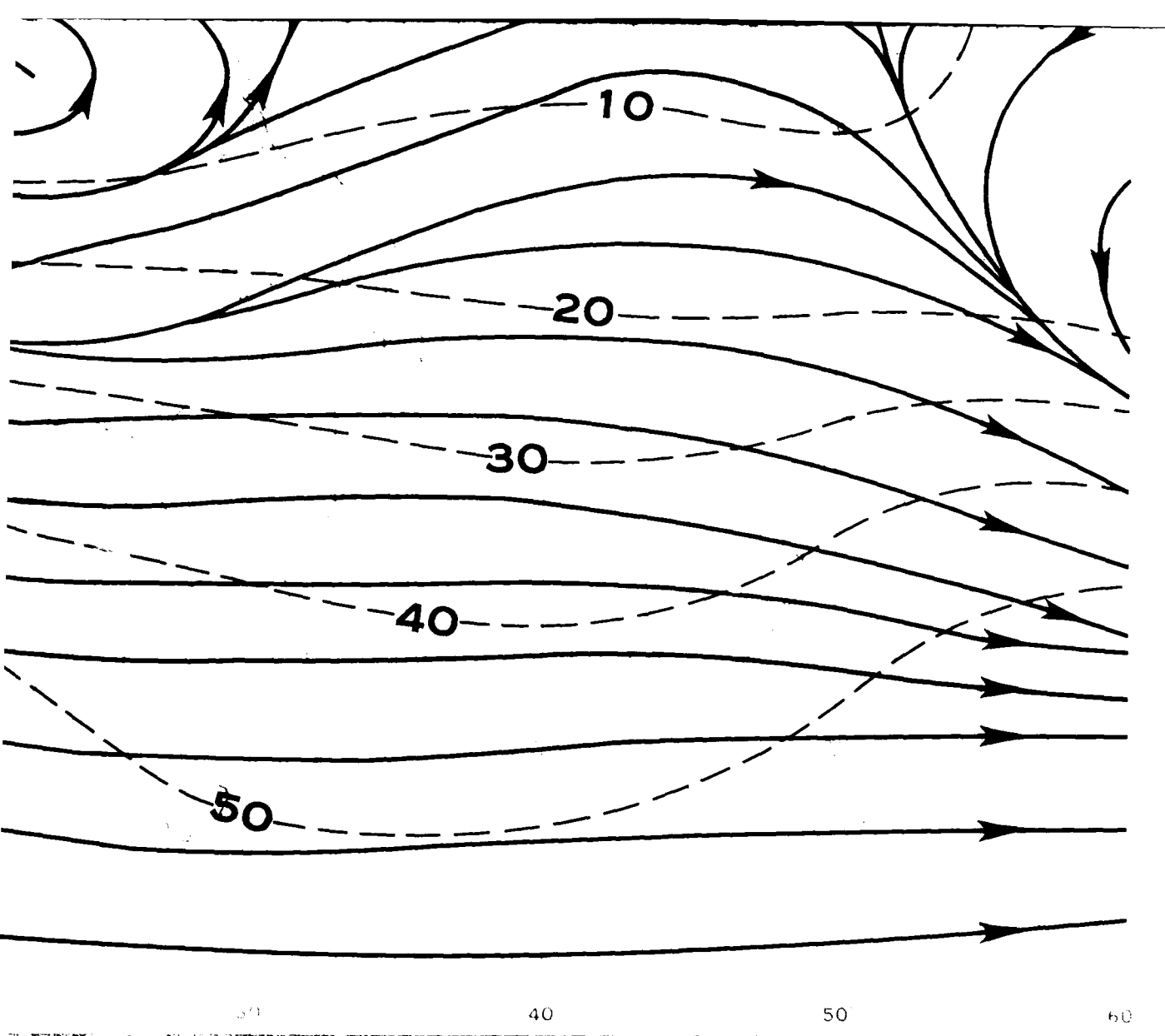






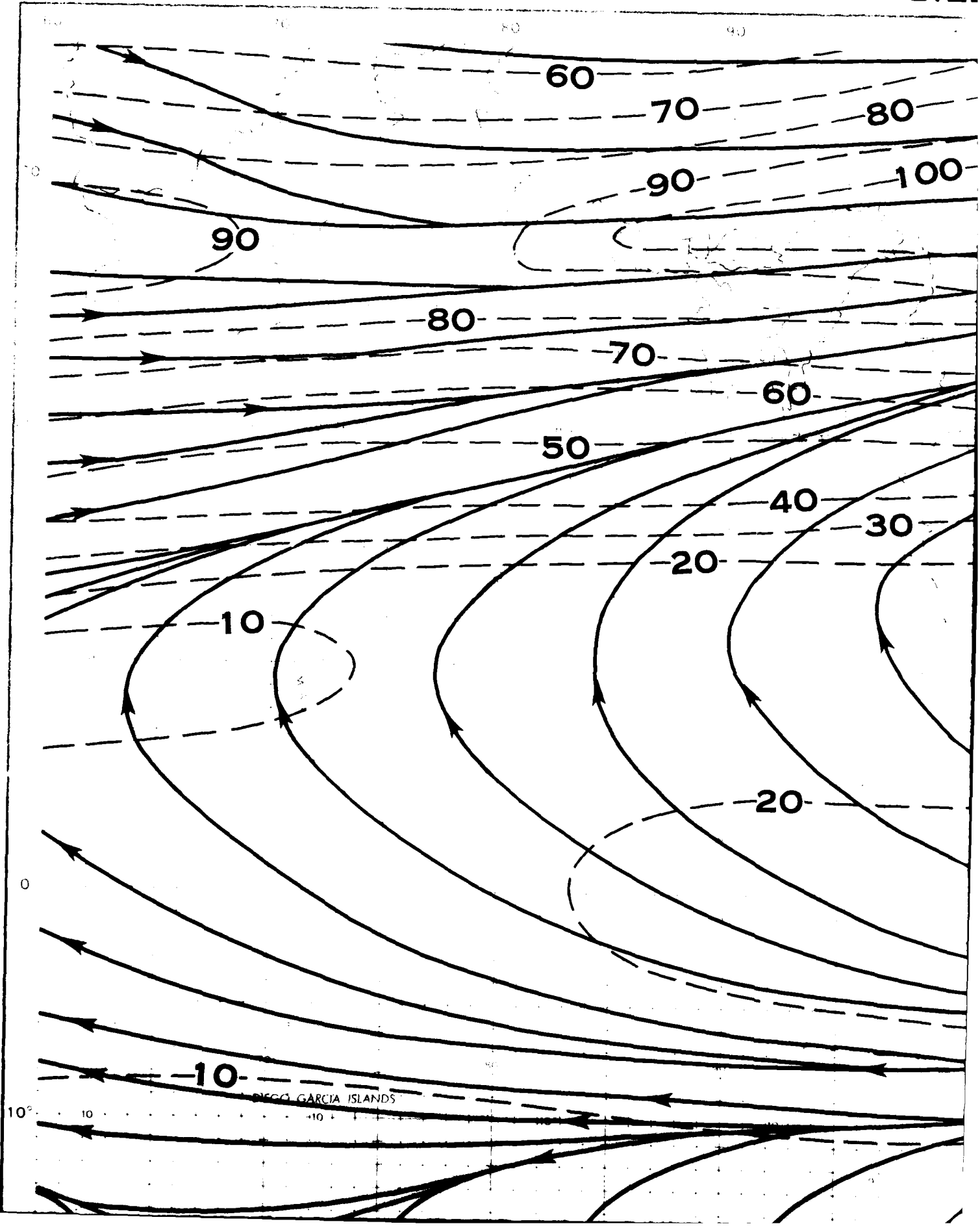




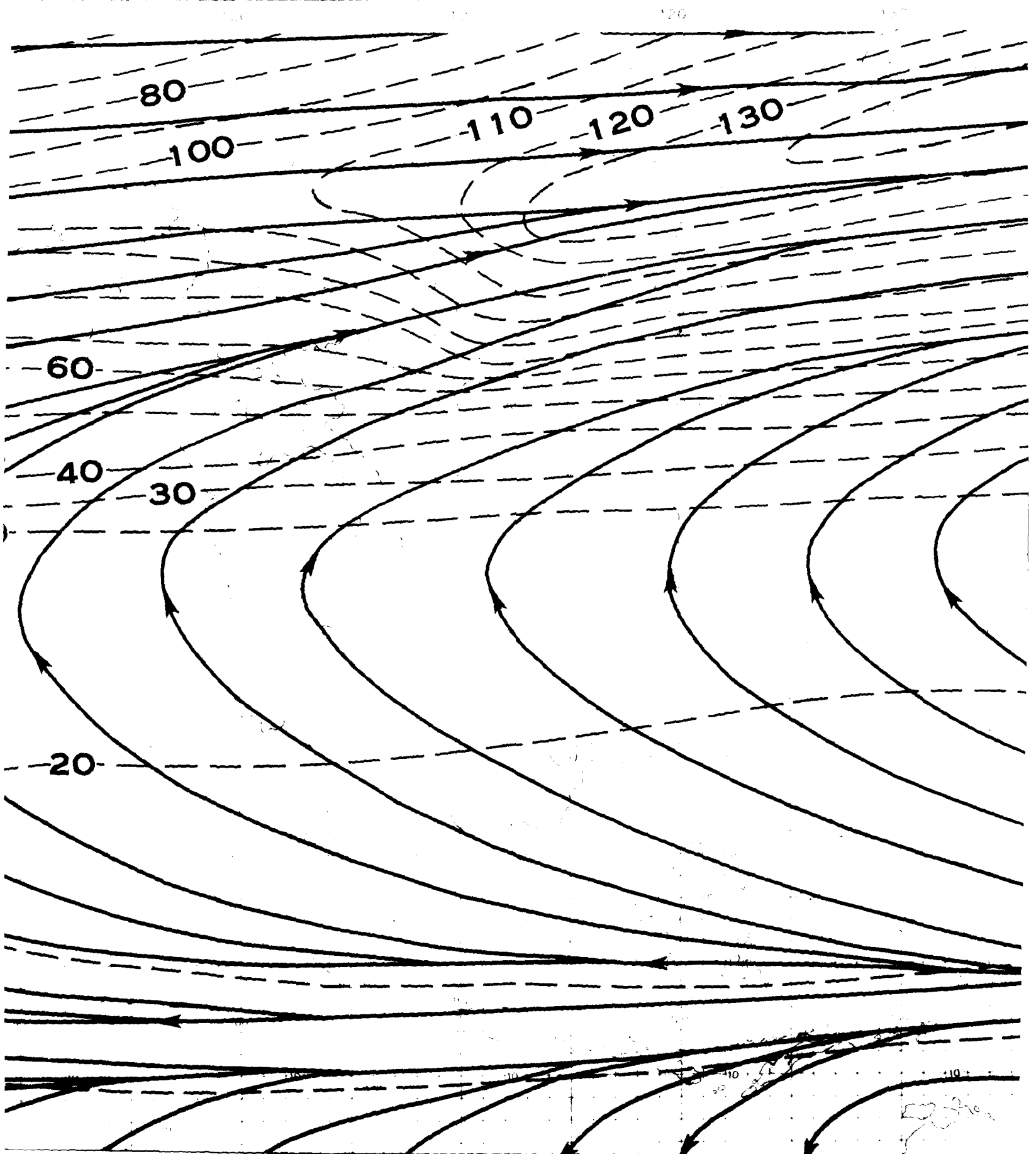


MULW-210W

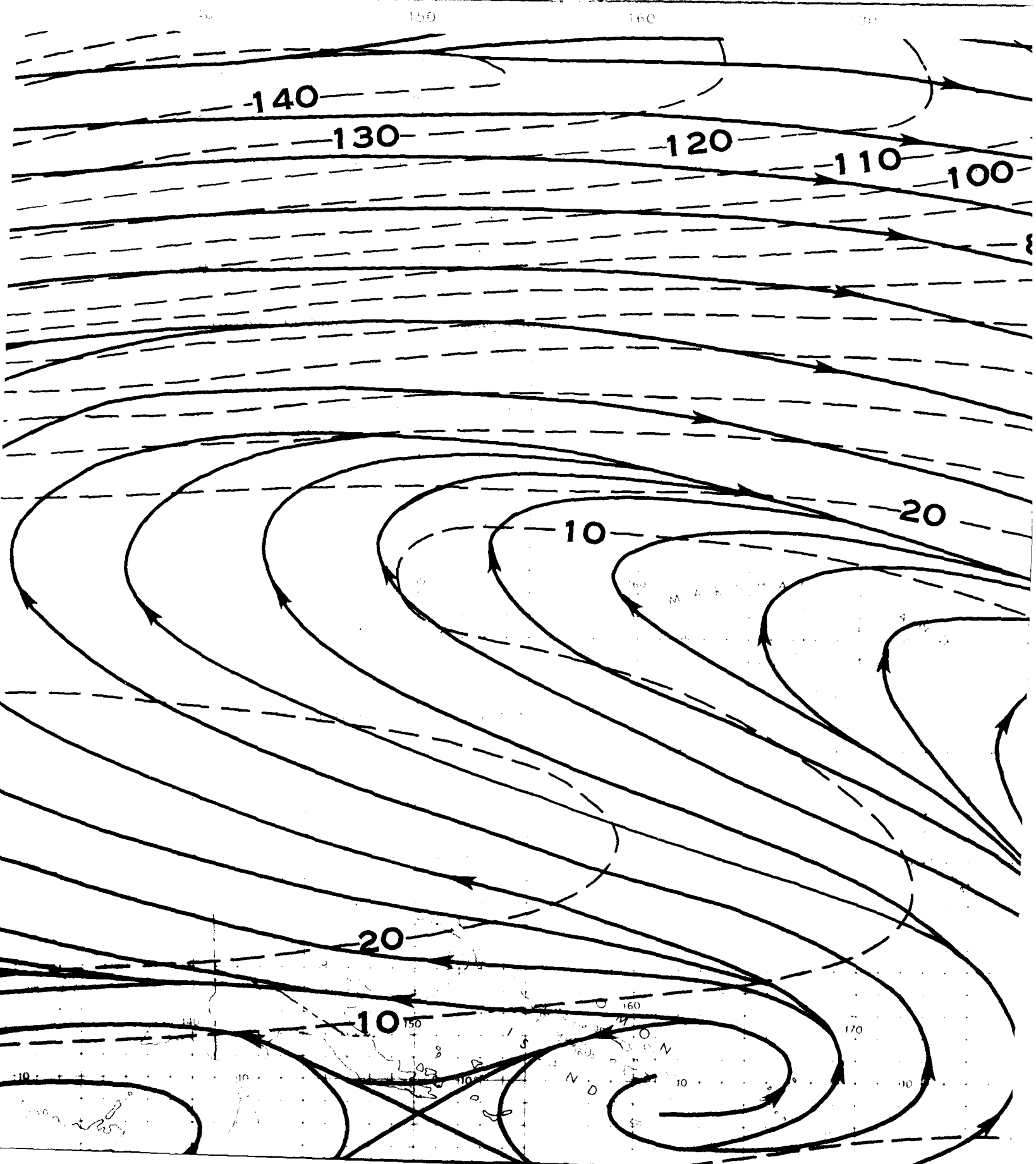
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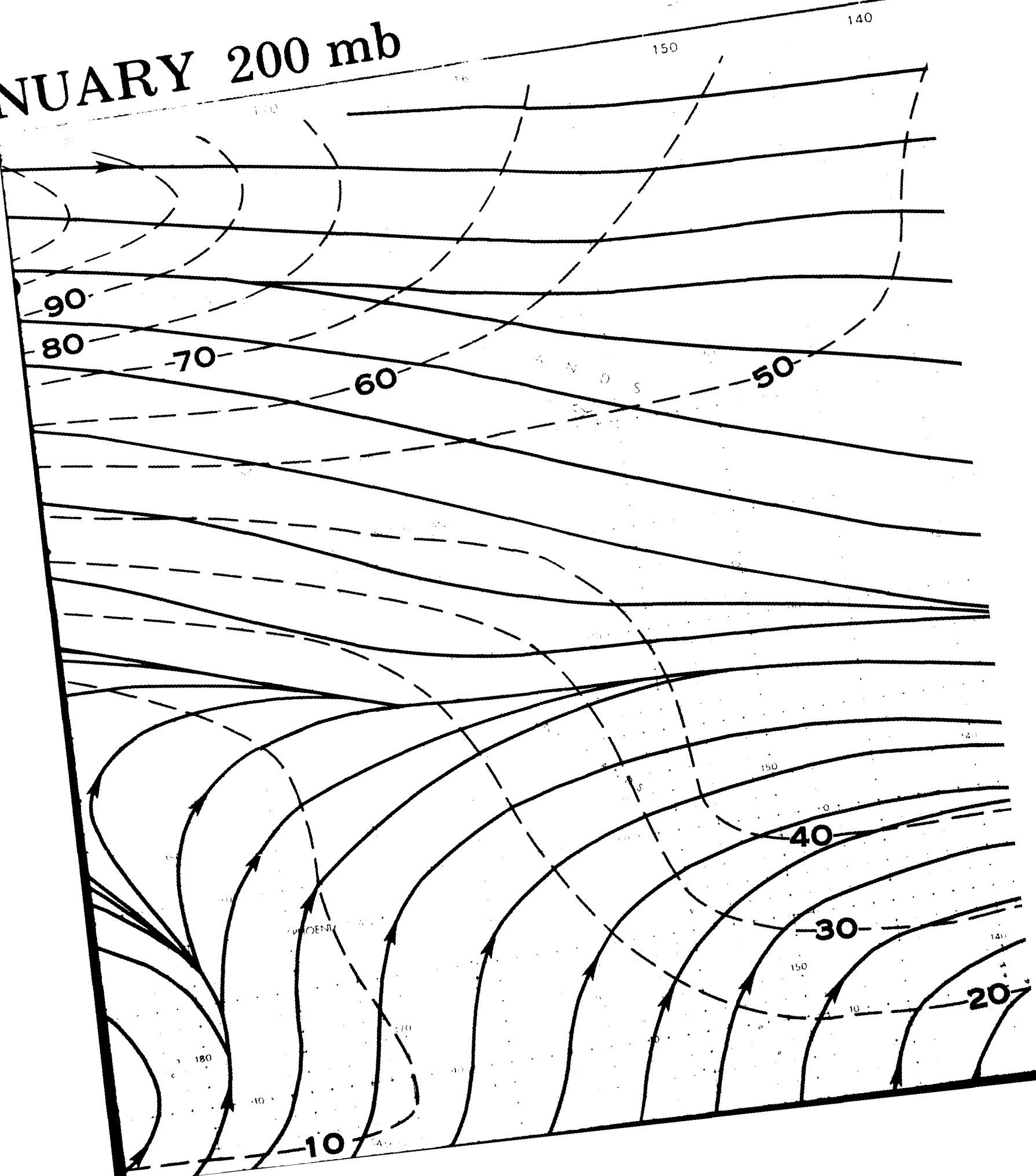
# MEAN UPPER LEVEL WIND

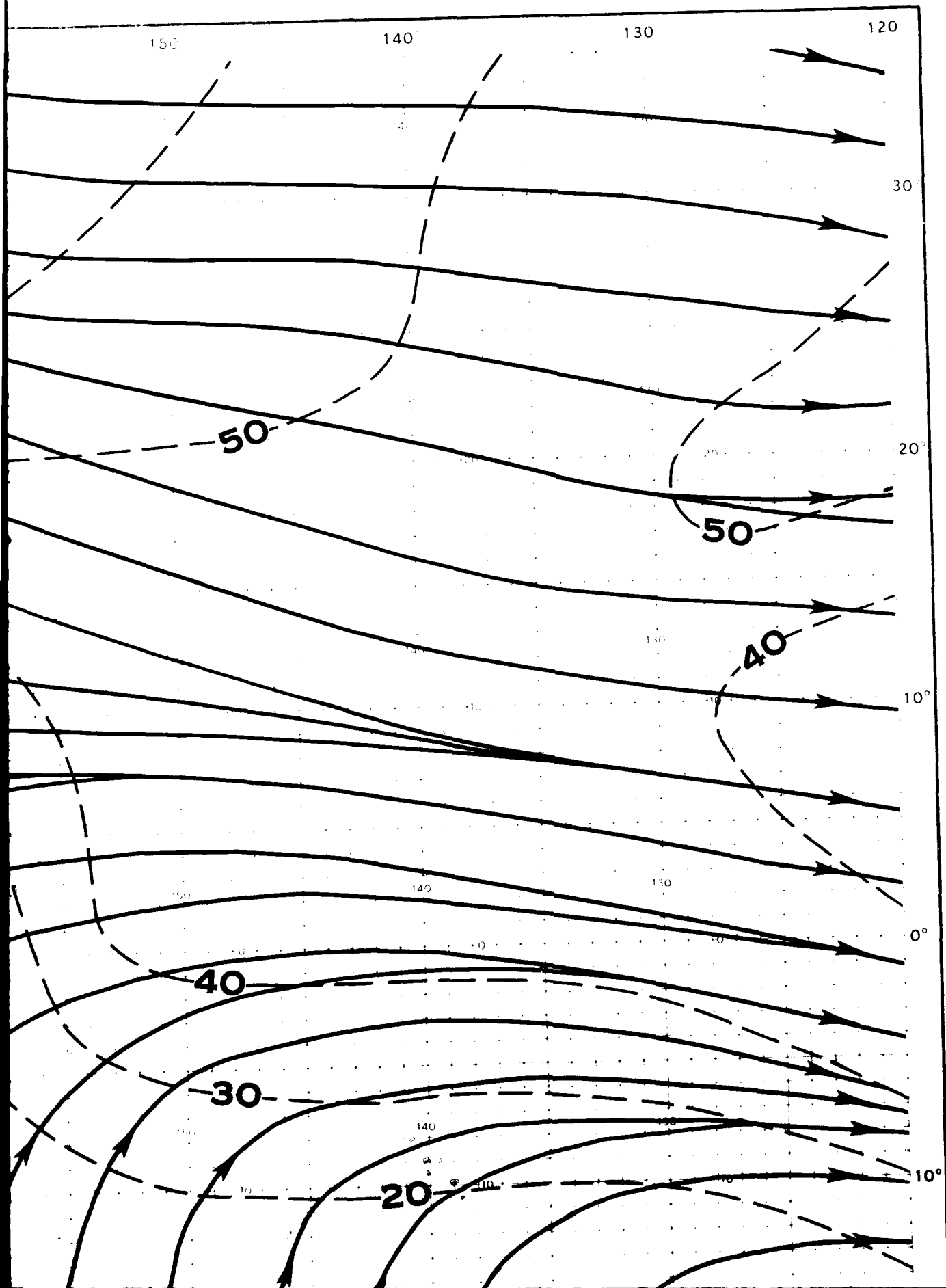


# NDS over GLOBAL TROPICS - JAN



# JANUARY 200 mb





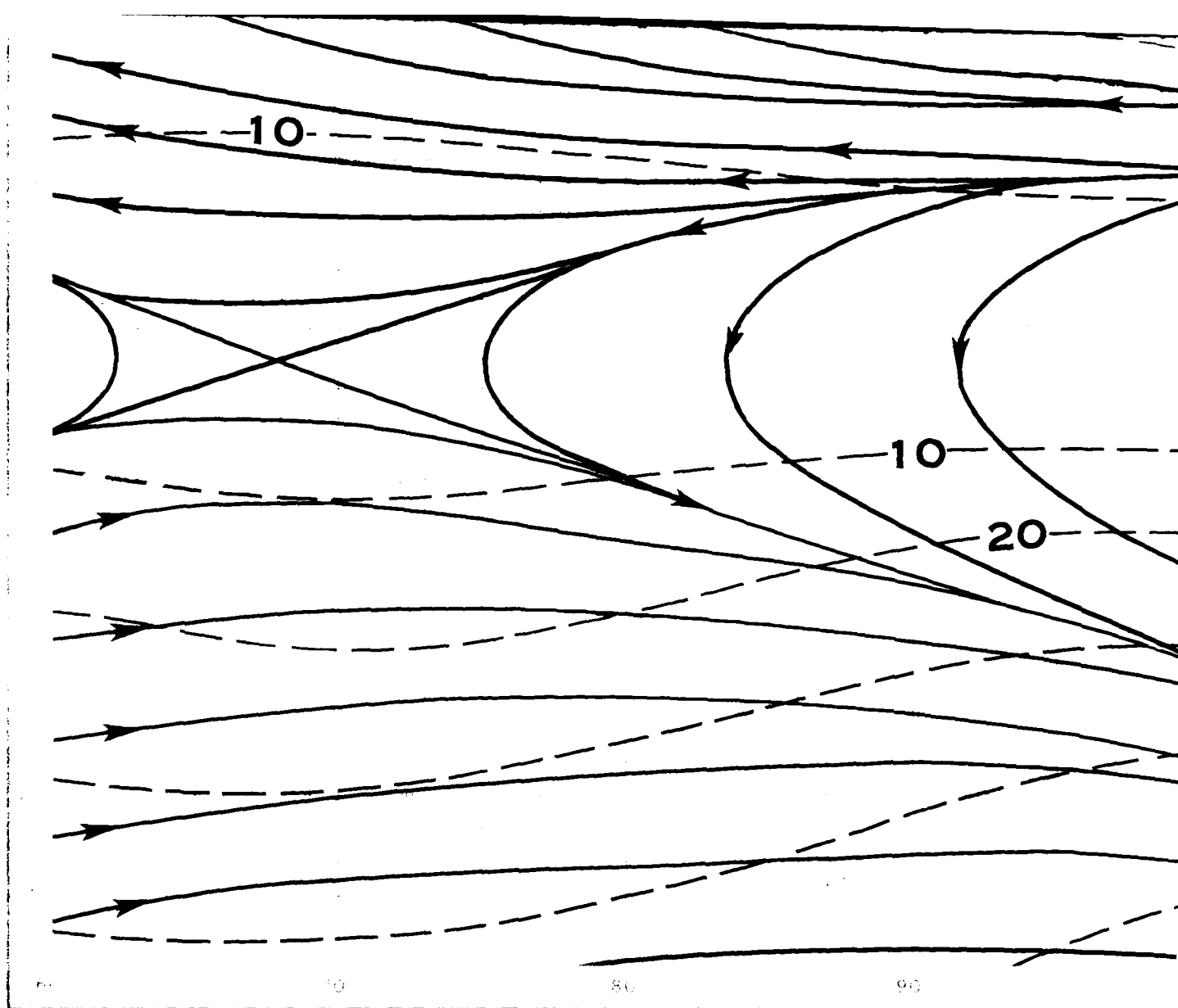
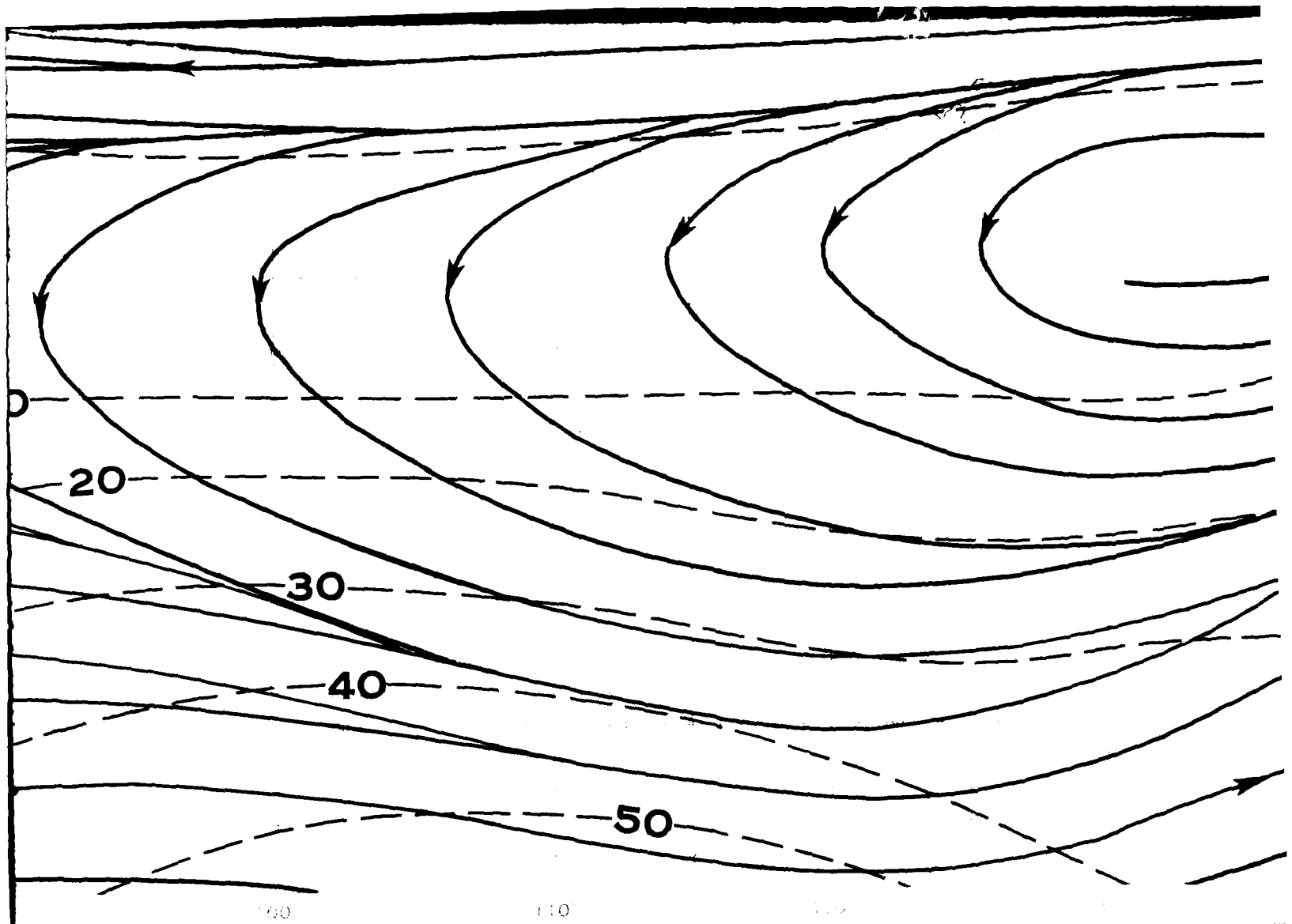
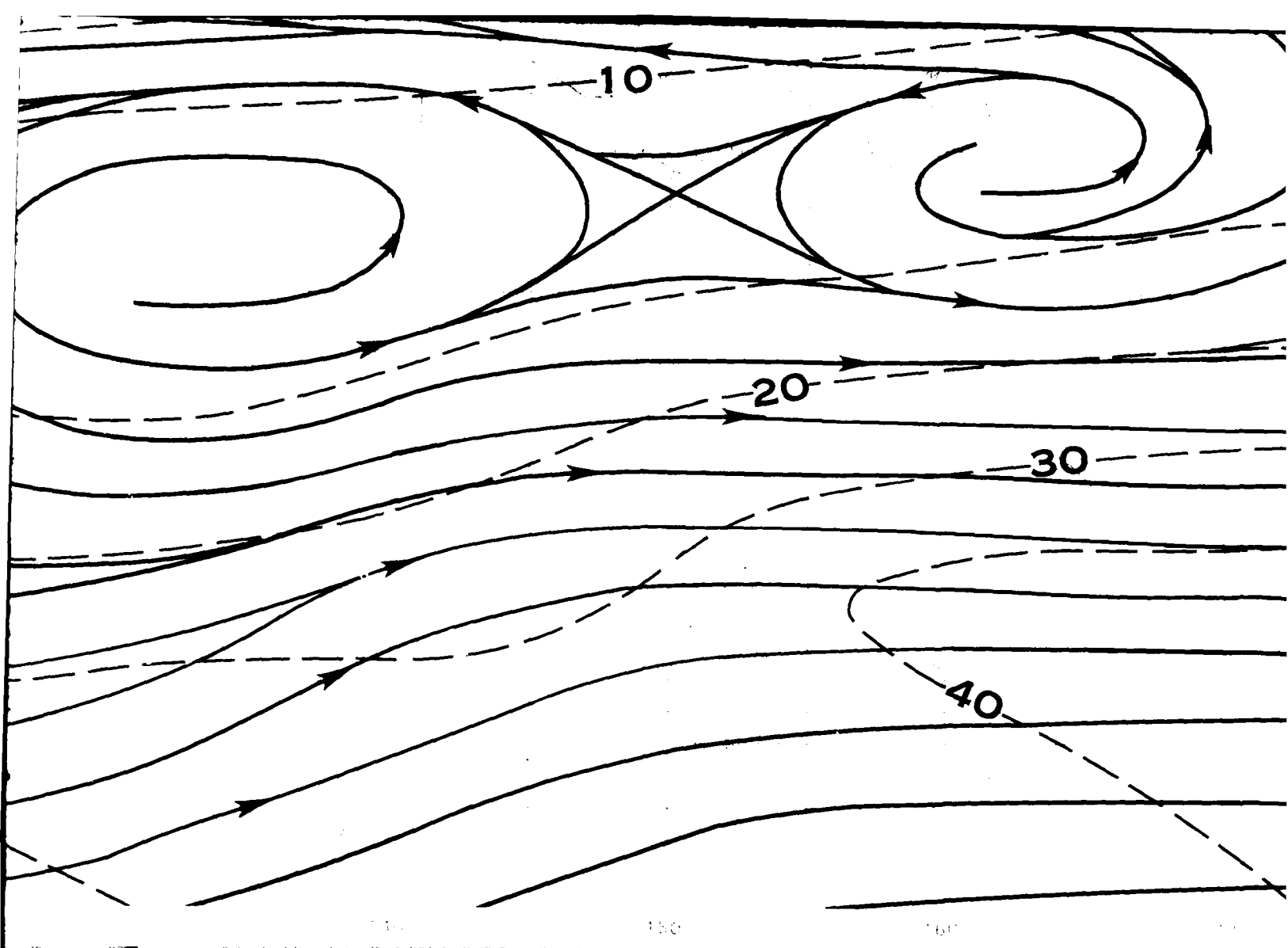


Figure 1. Streamlines of the flow field around the airfoil.



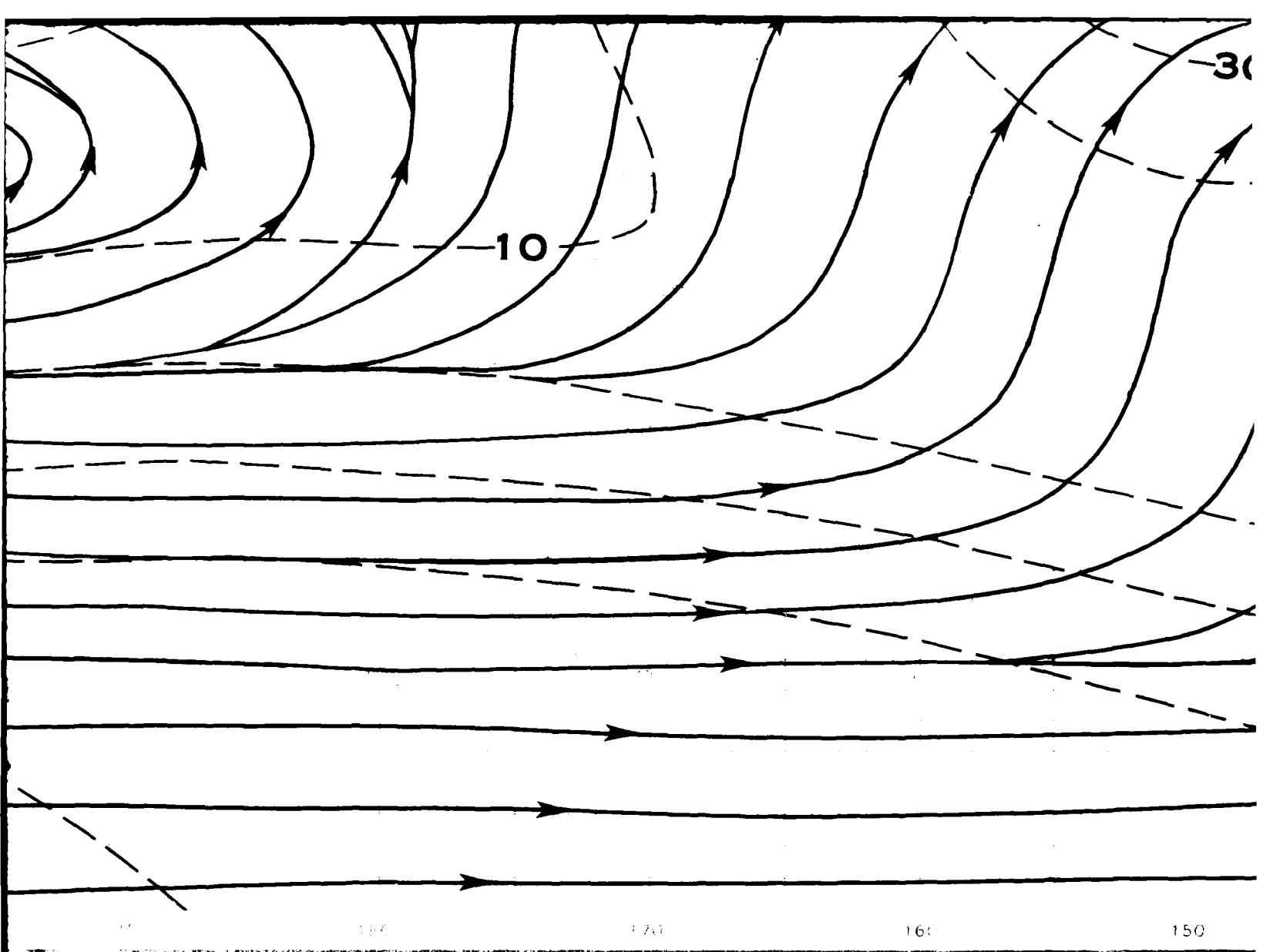


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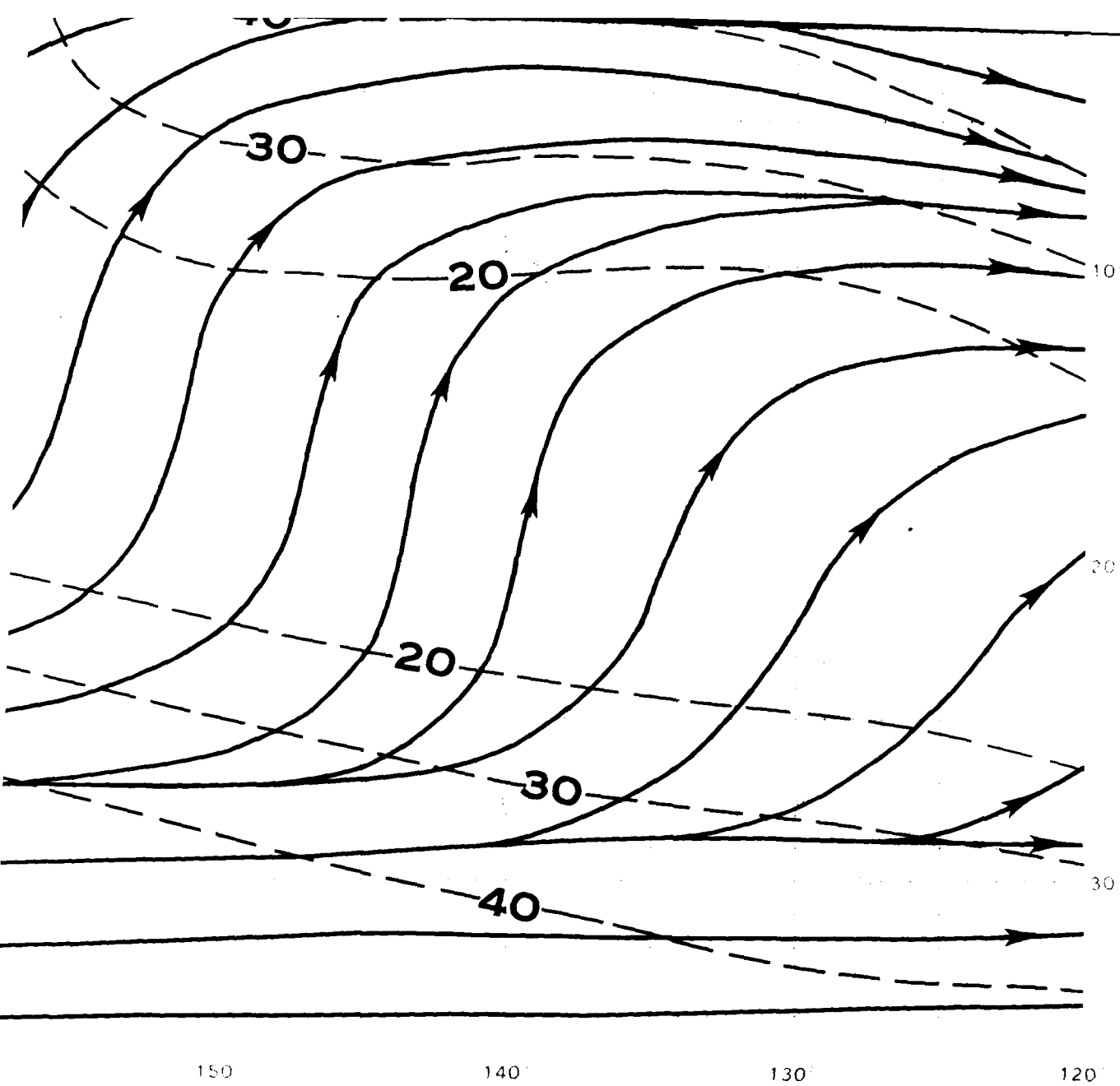


100 150 200 250

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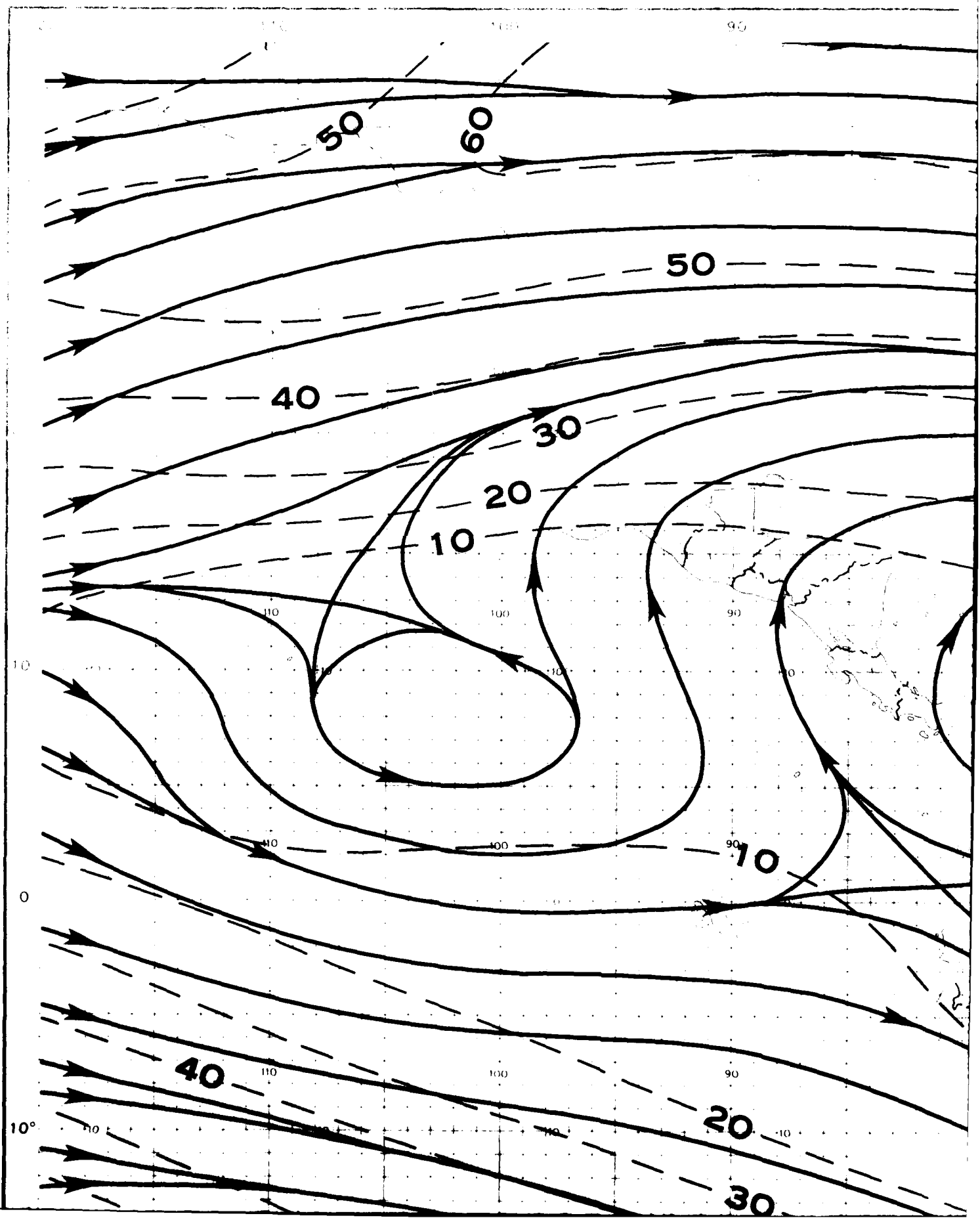


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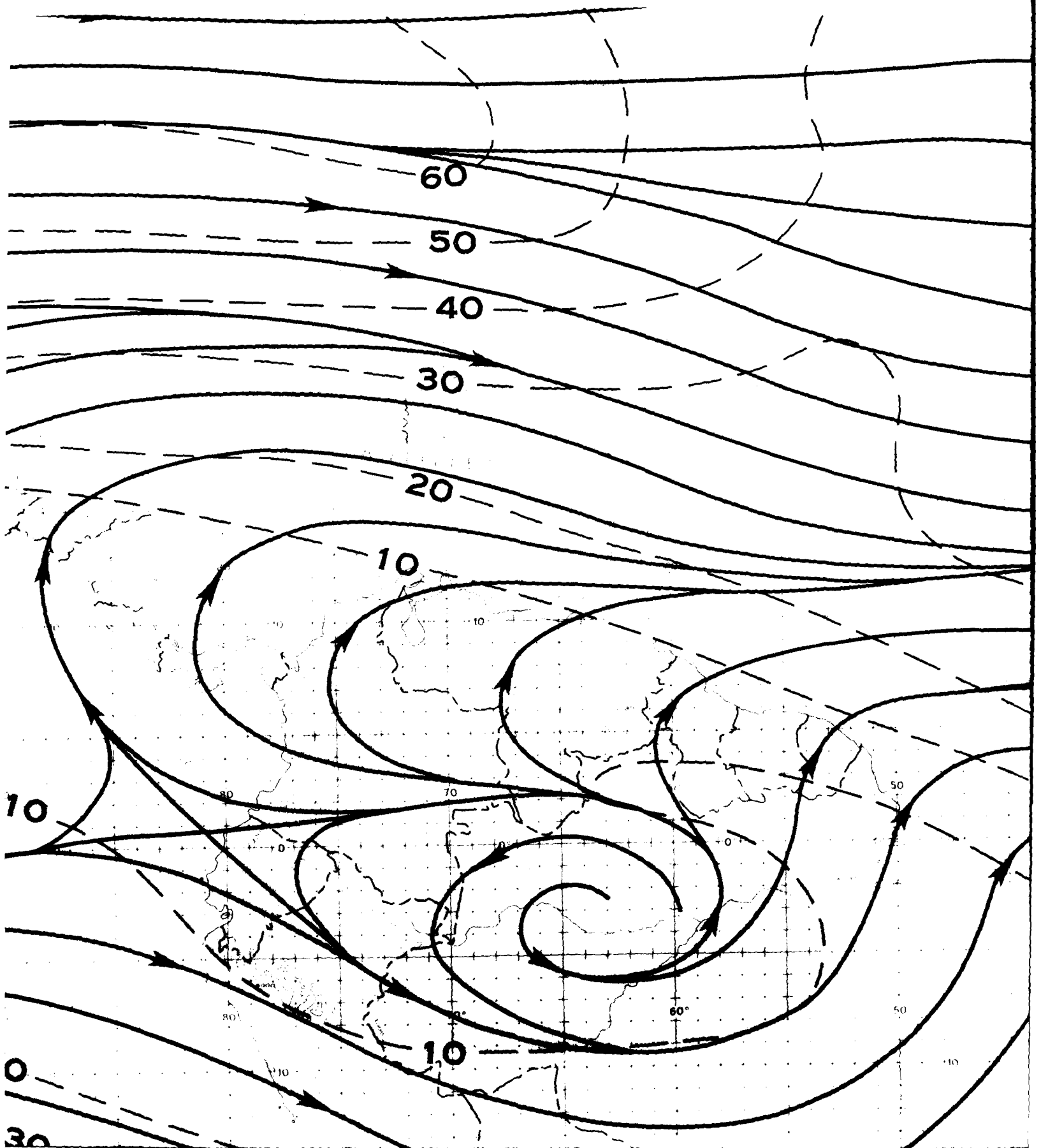


MULW-201E

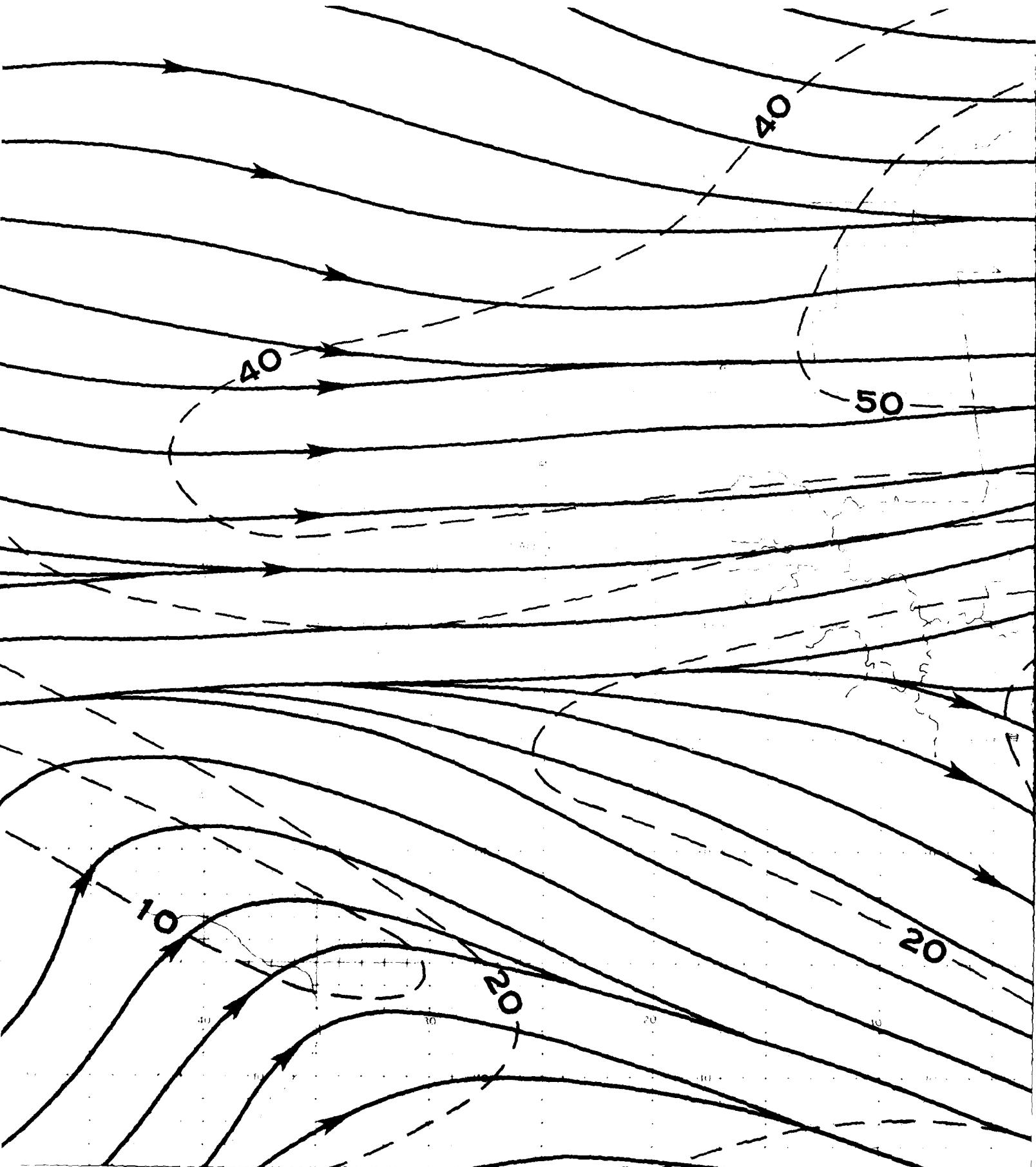
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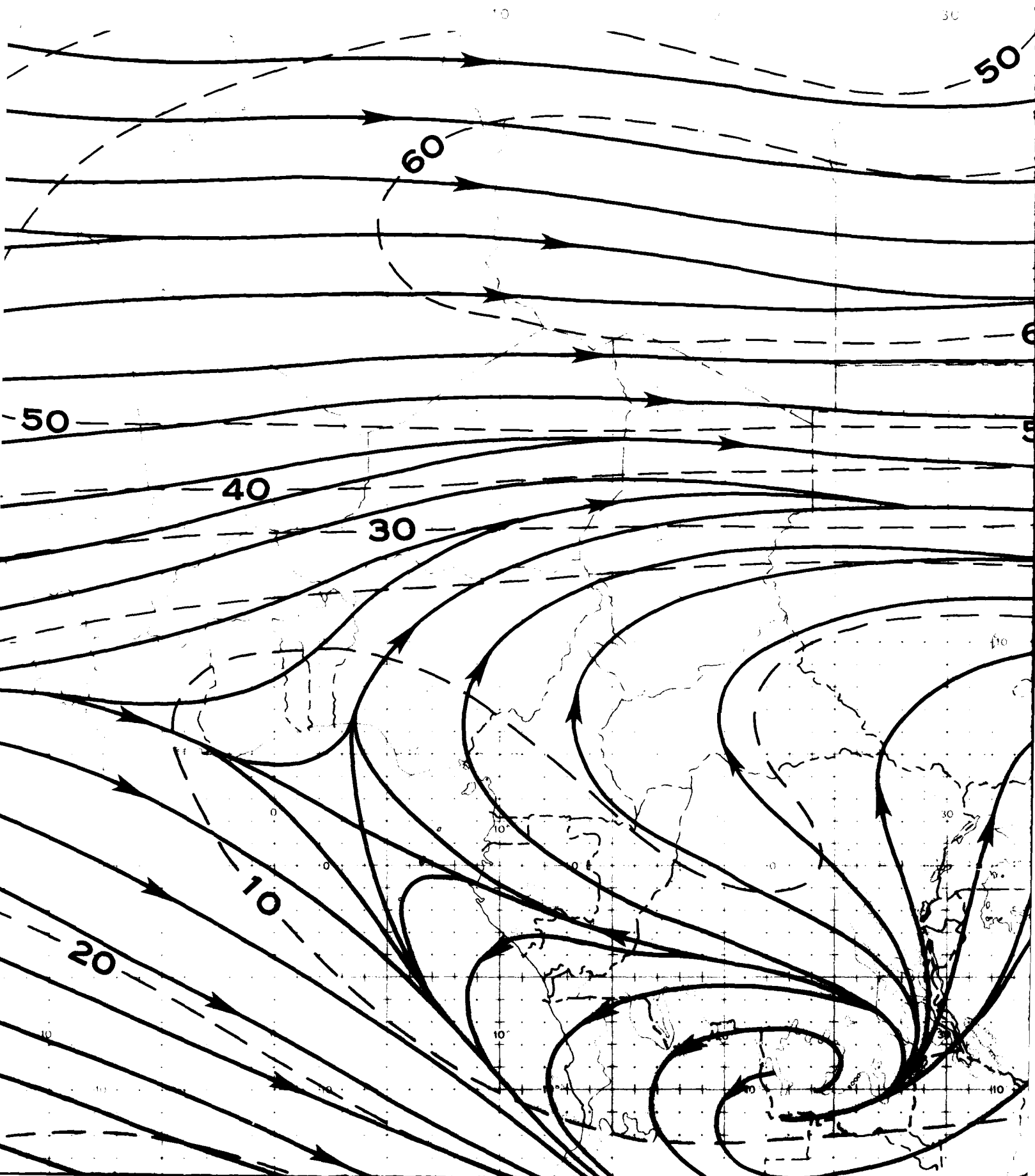
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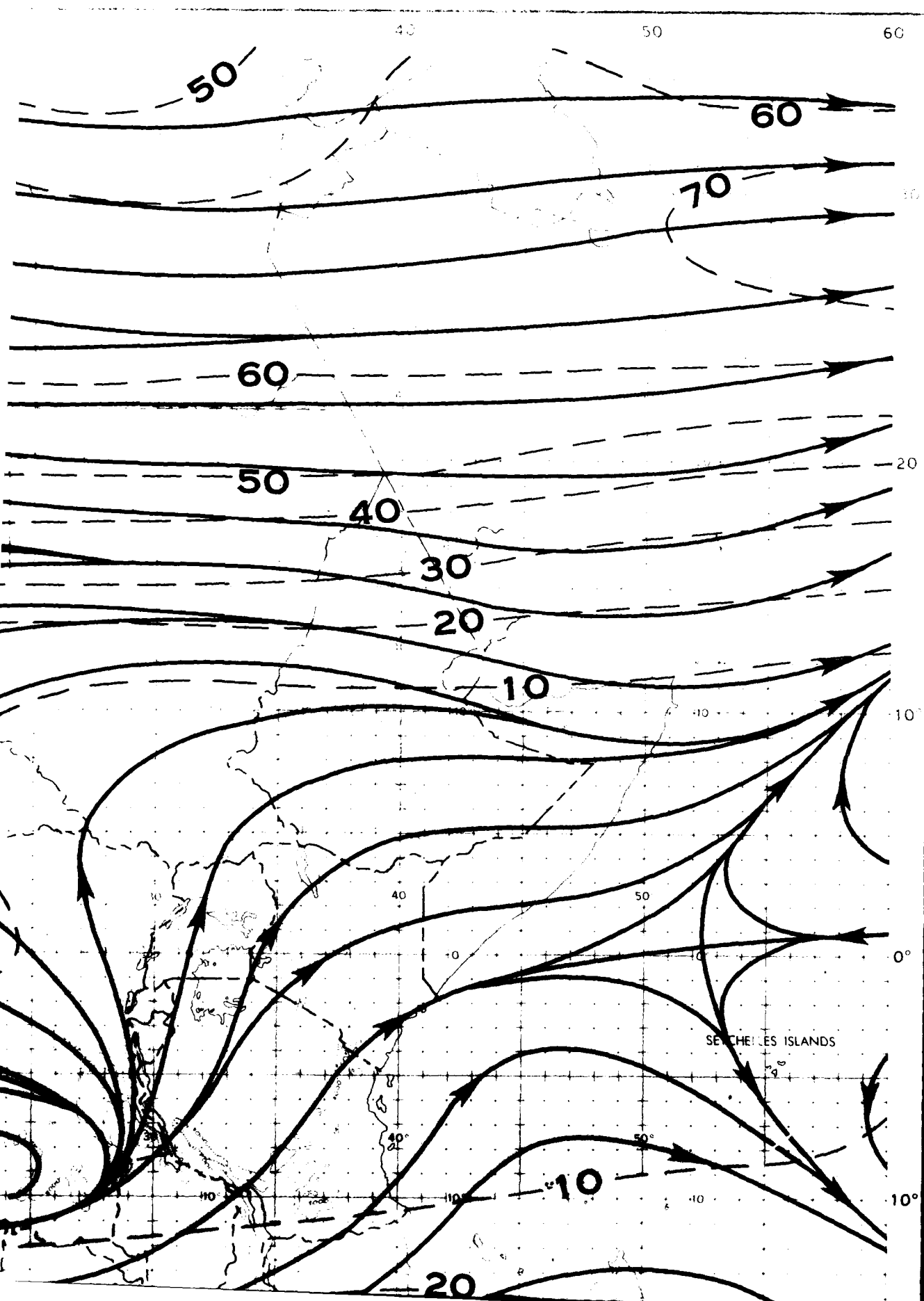
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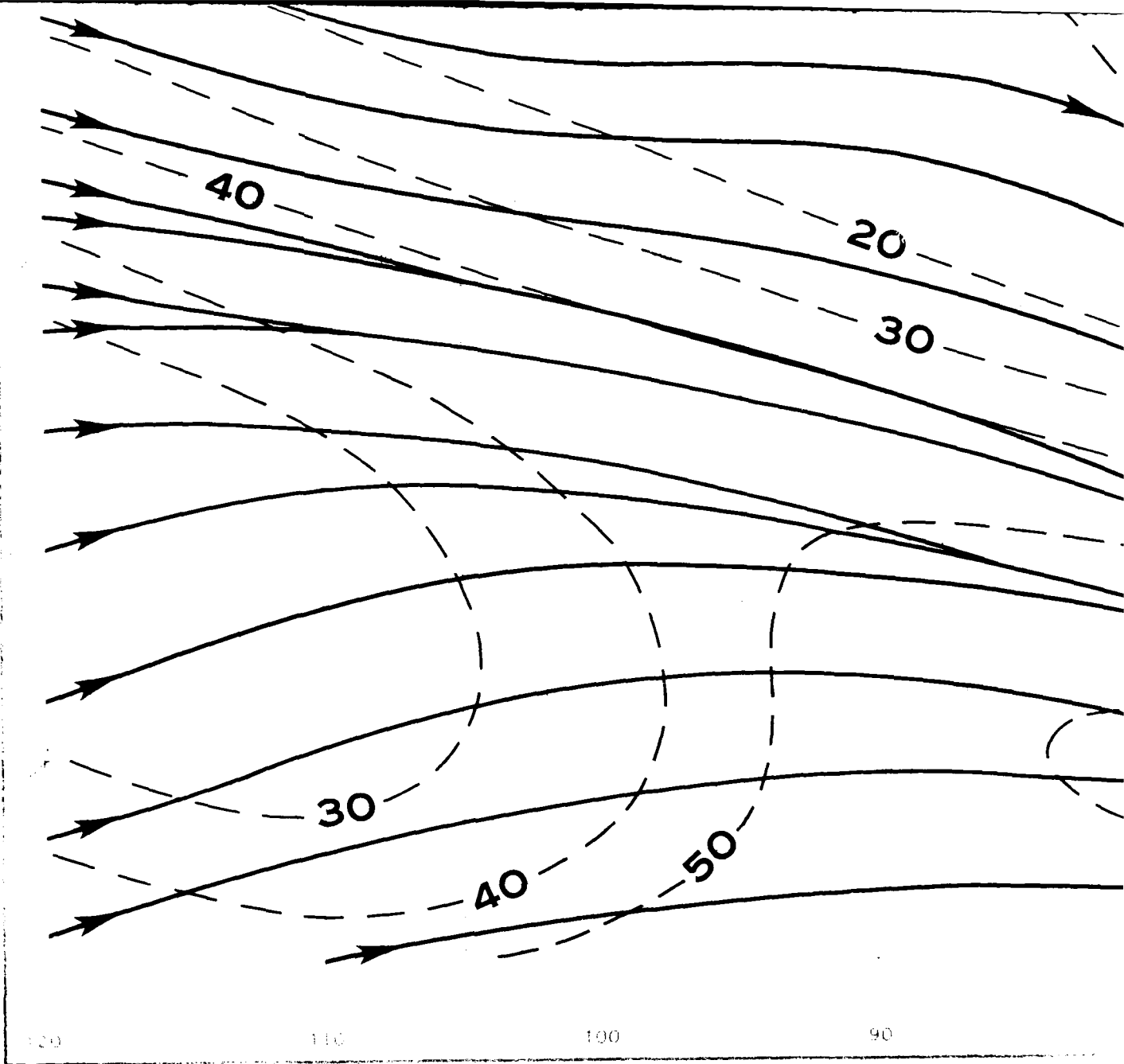


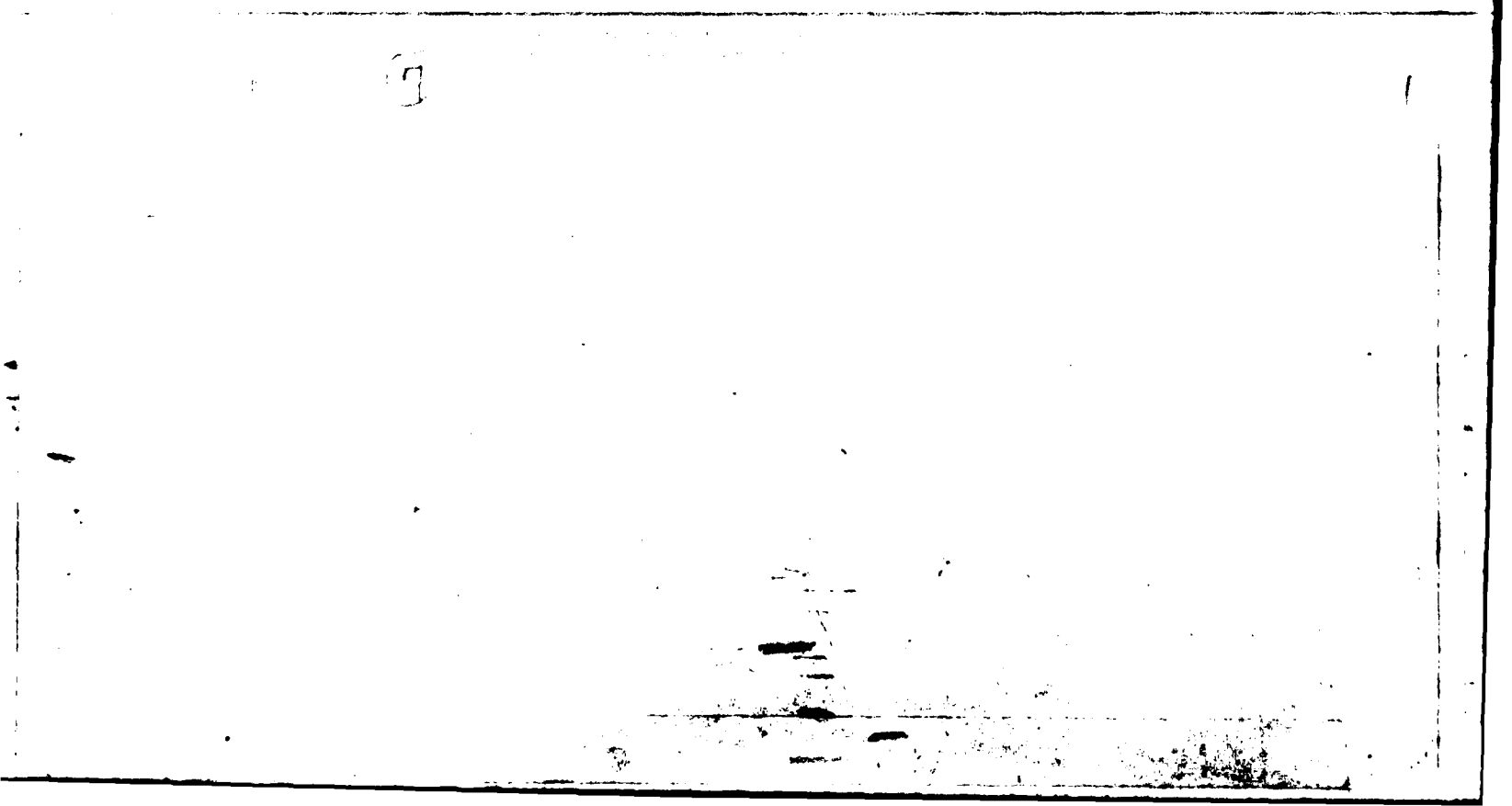
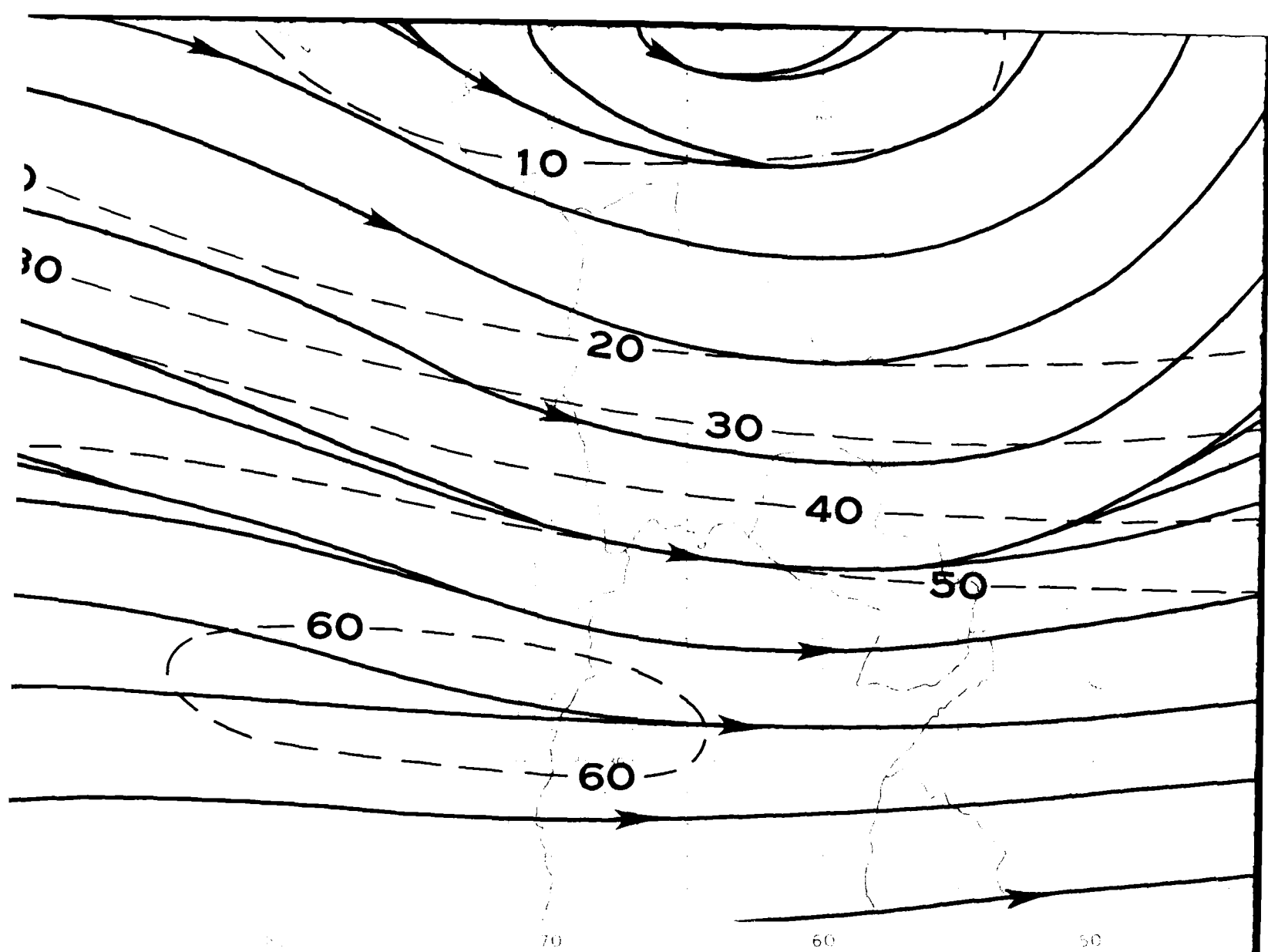
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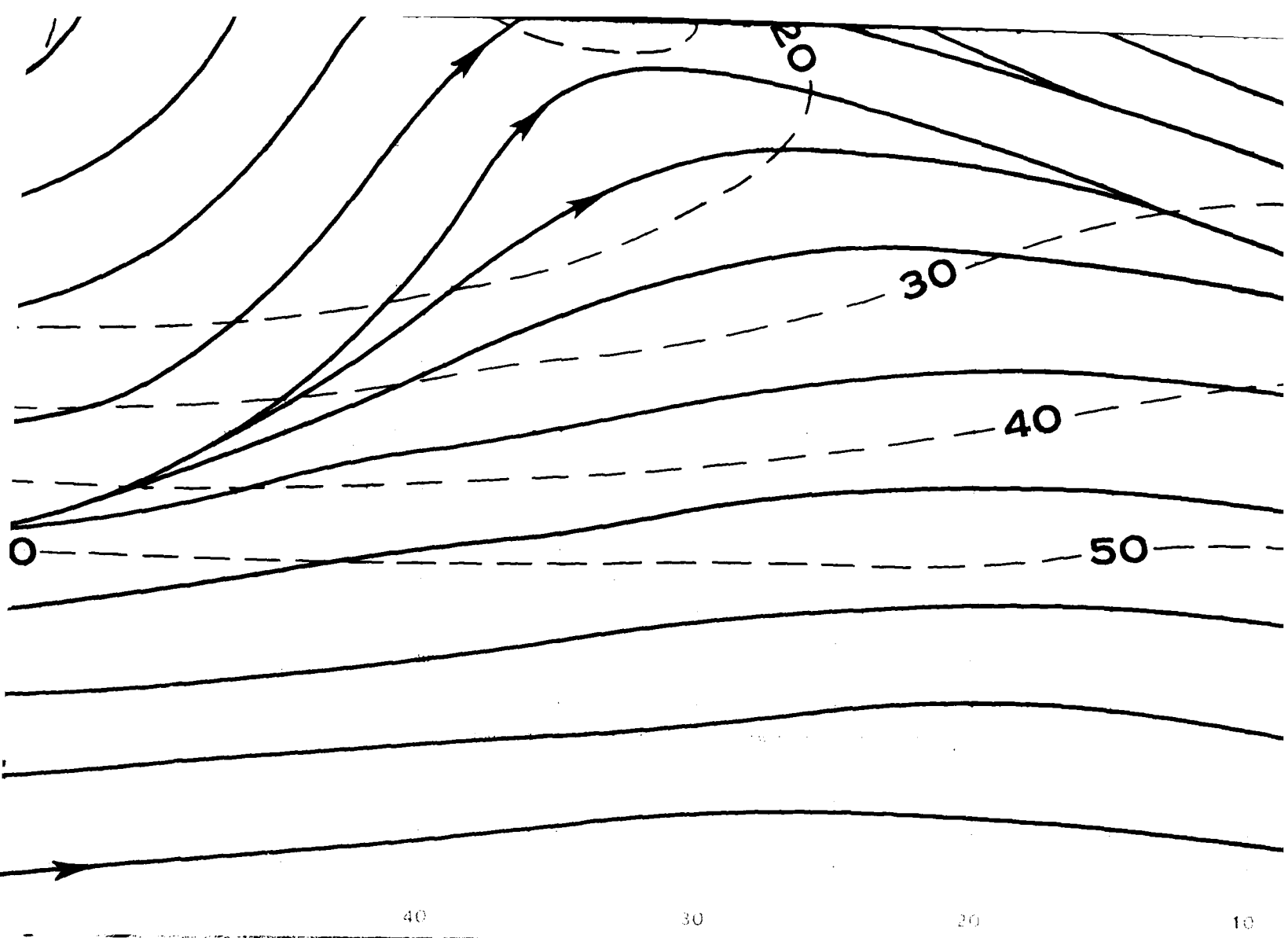




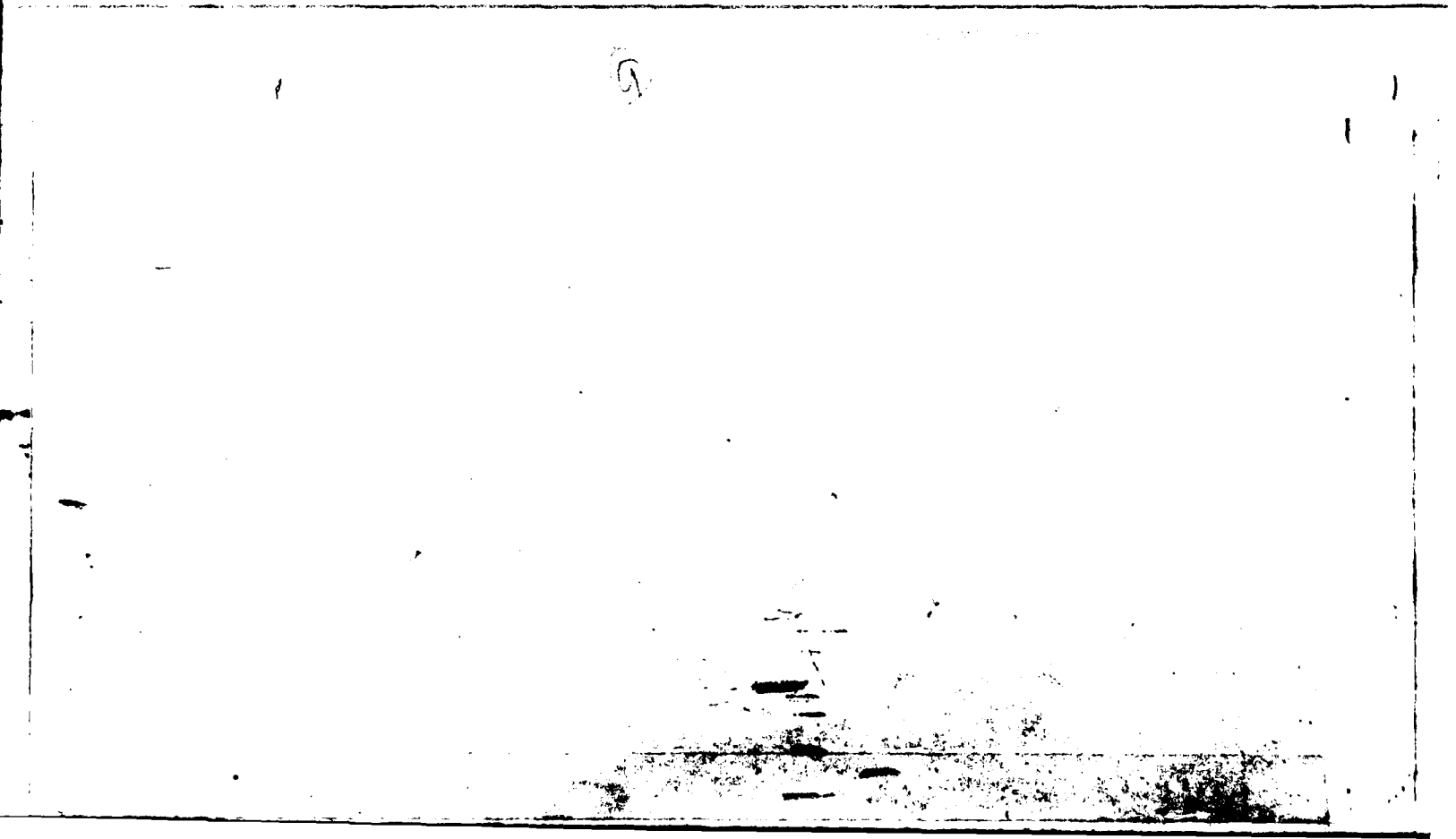
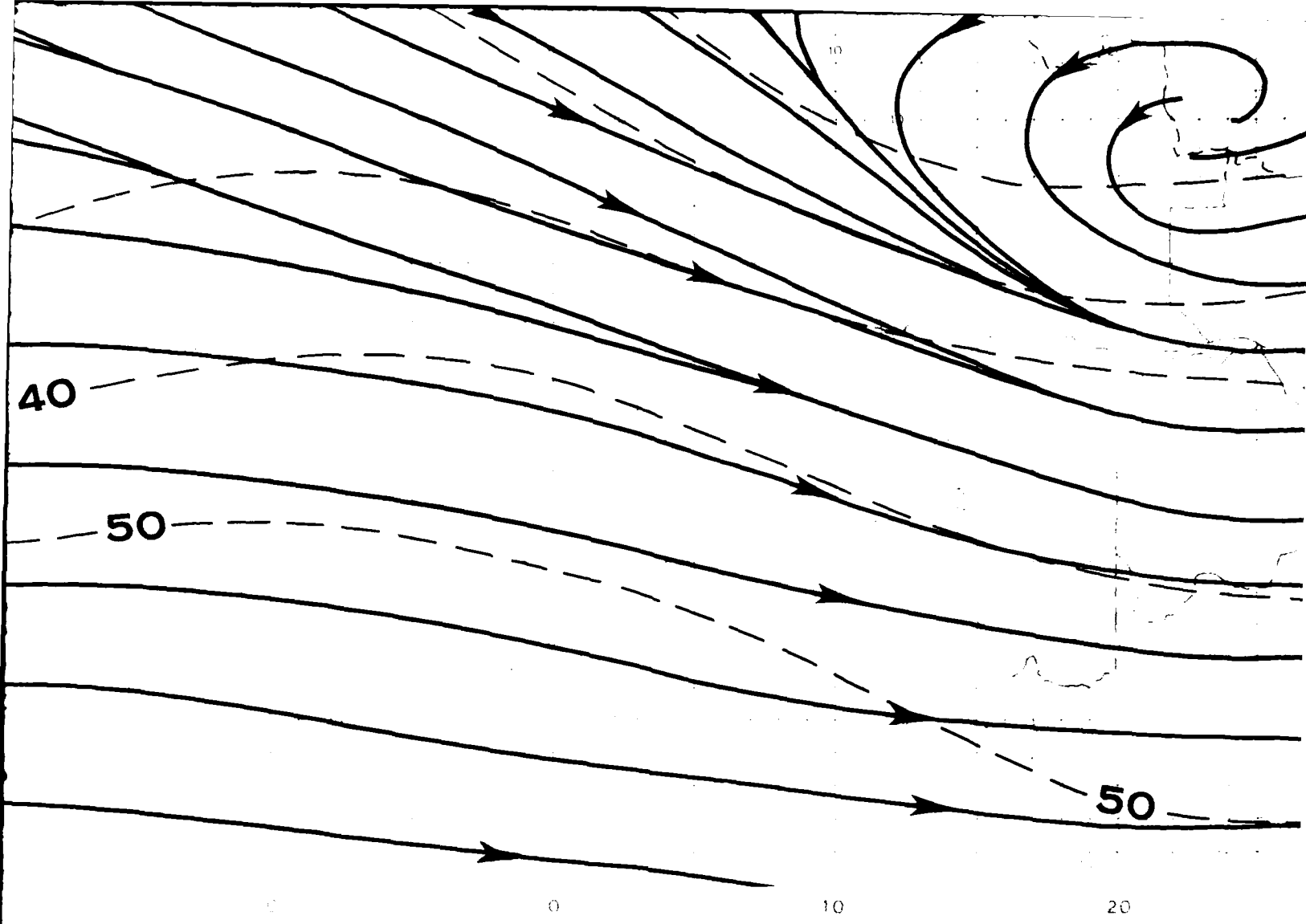


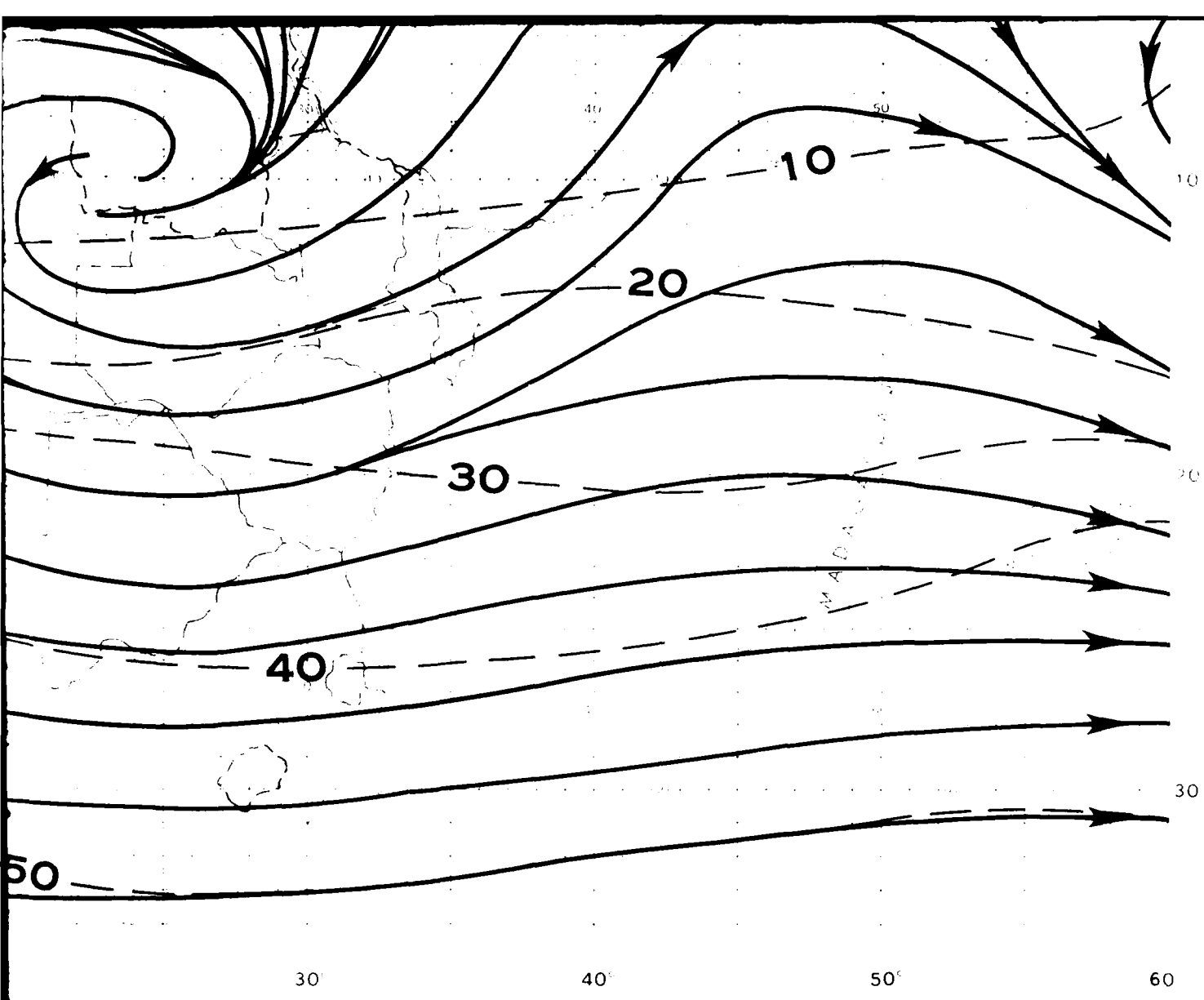






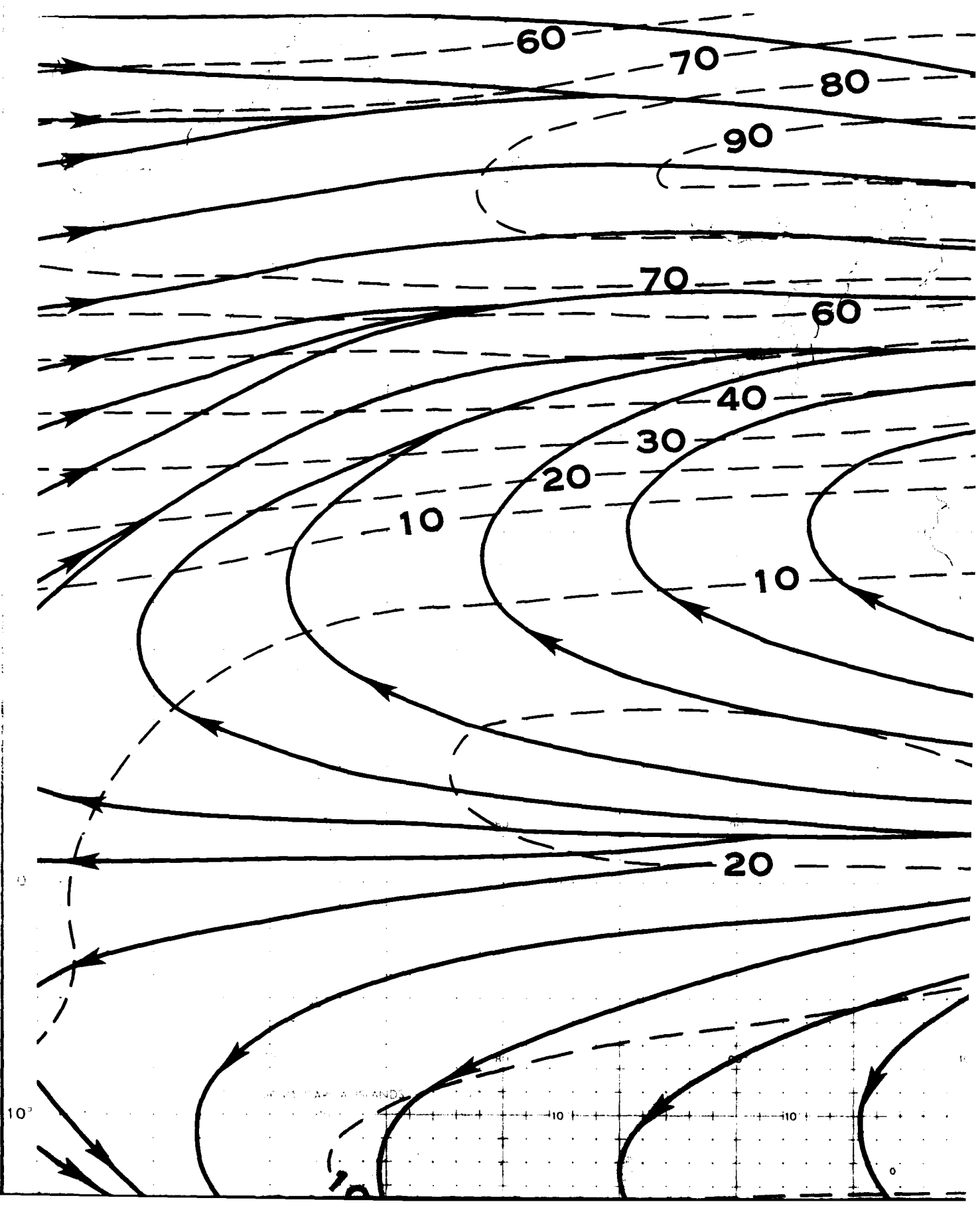
Handwritten text, possibly a signature or a note, located below the main plot area.



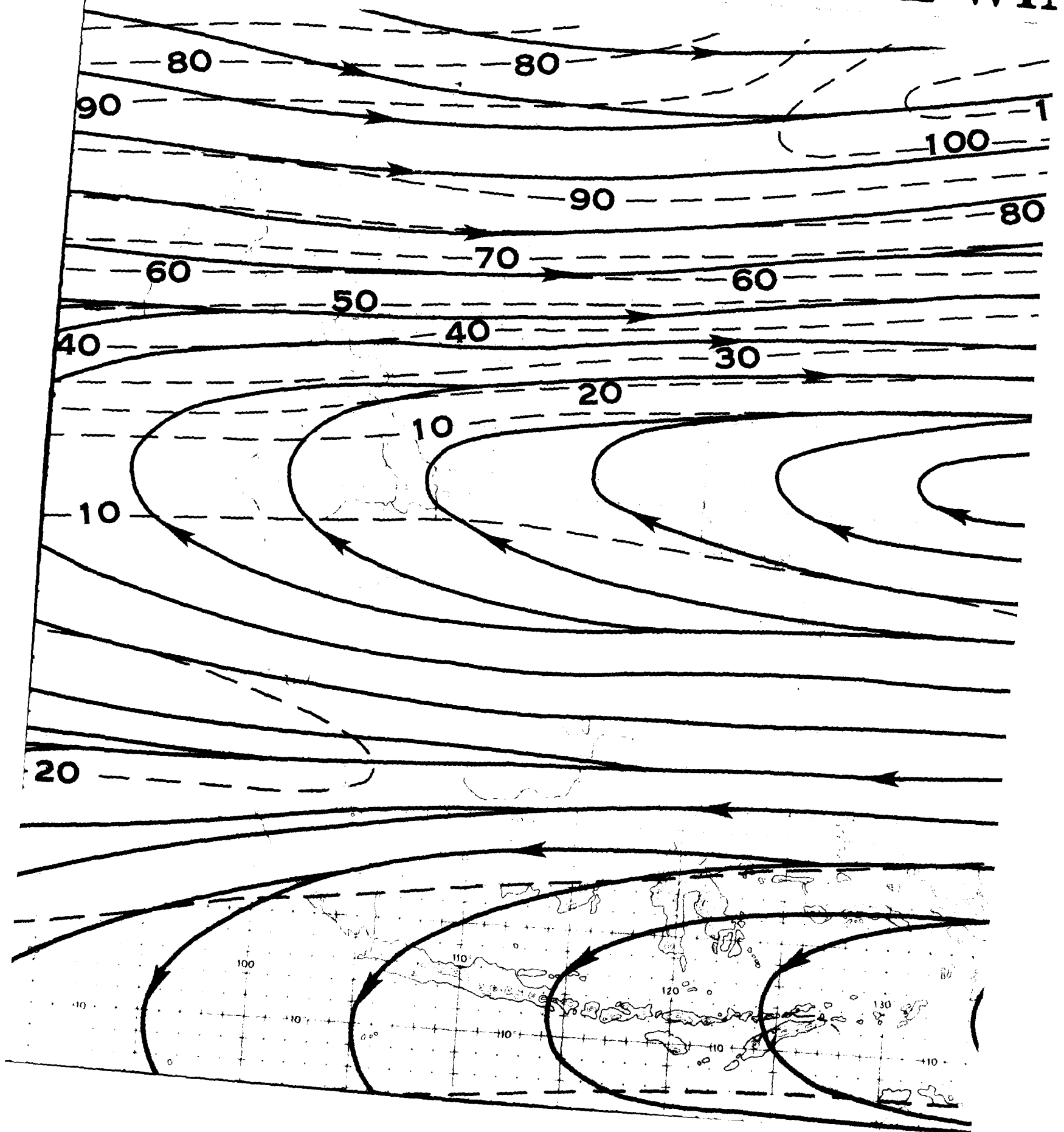


MULW-211W

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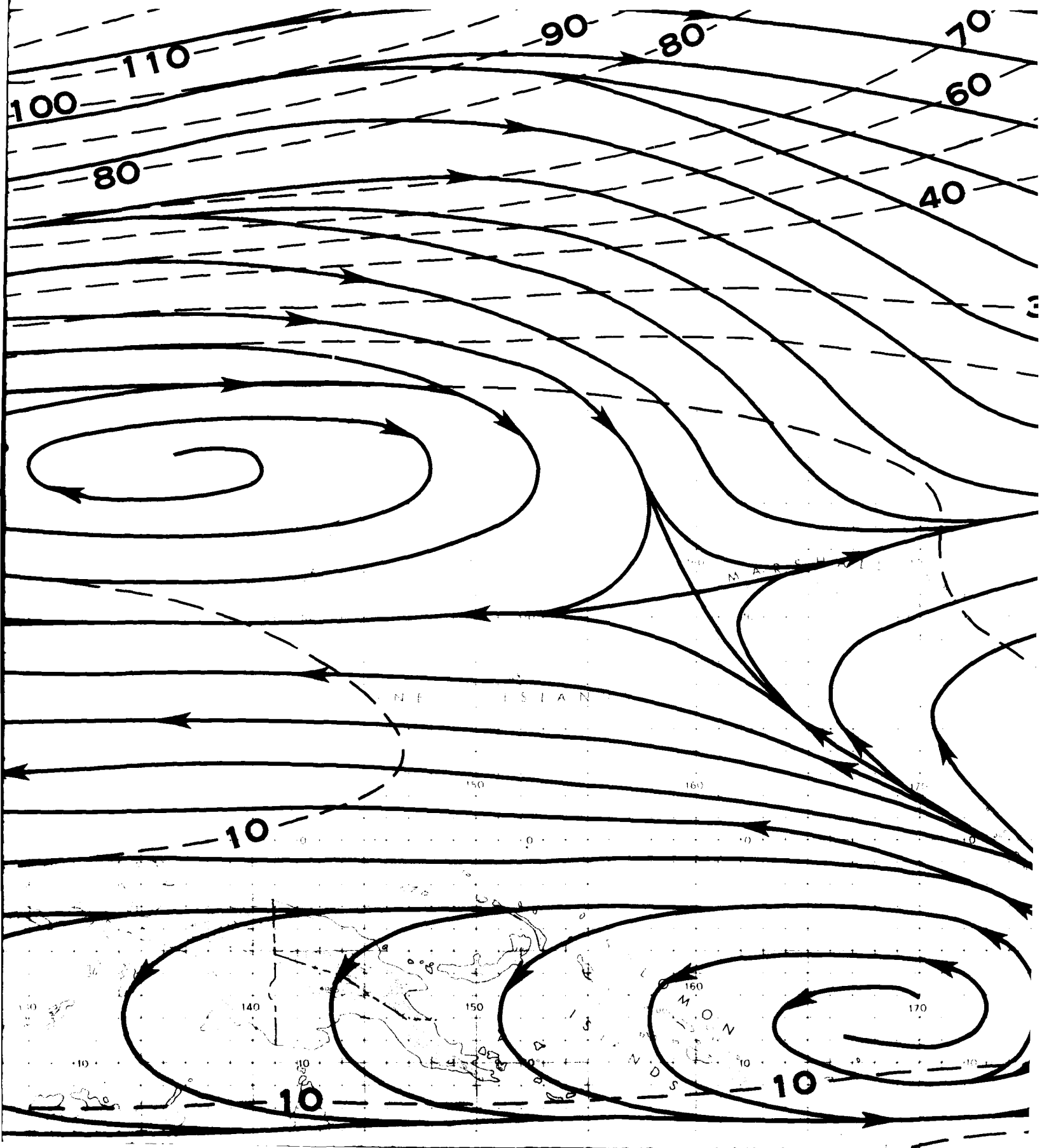


# MEAN UPPER LEVEL WIND

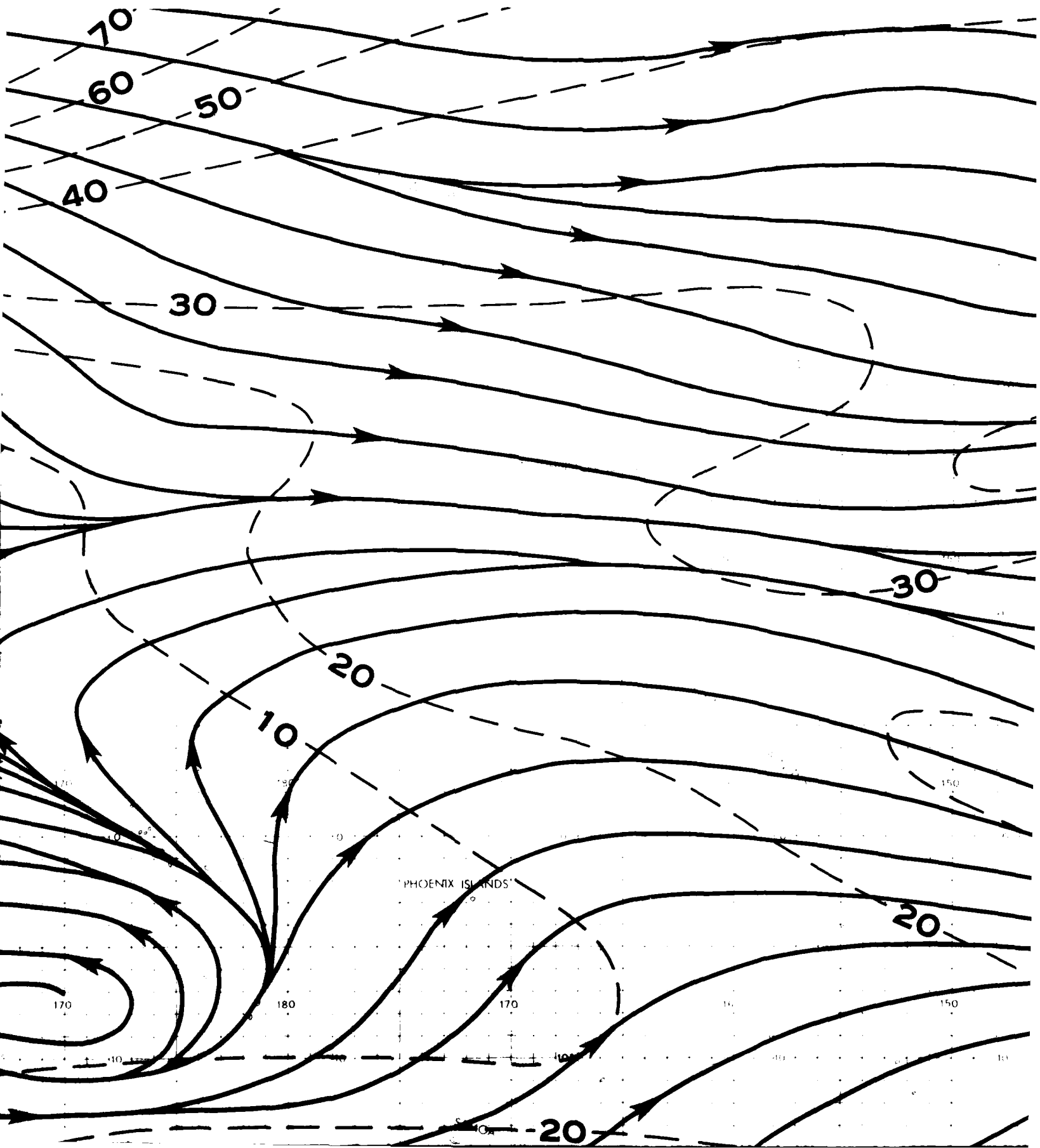


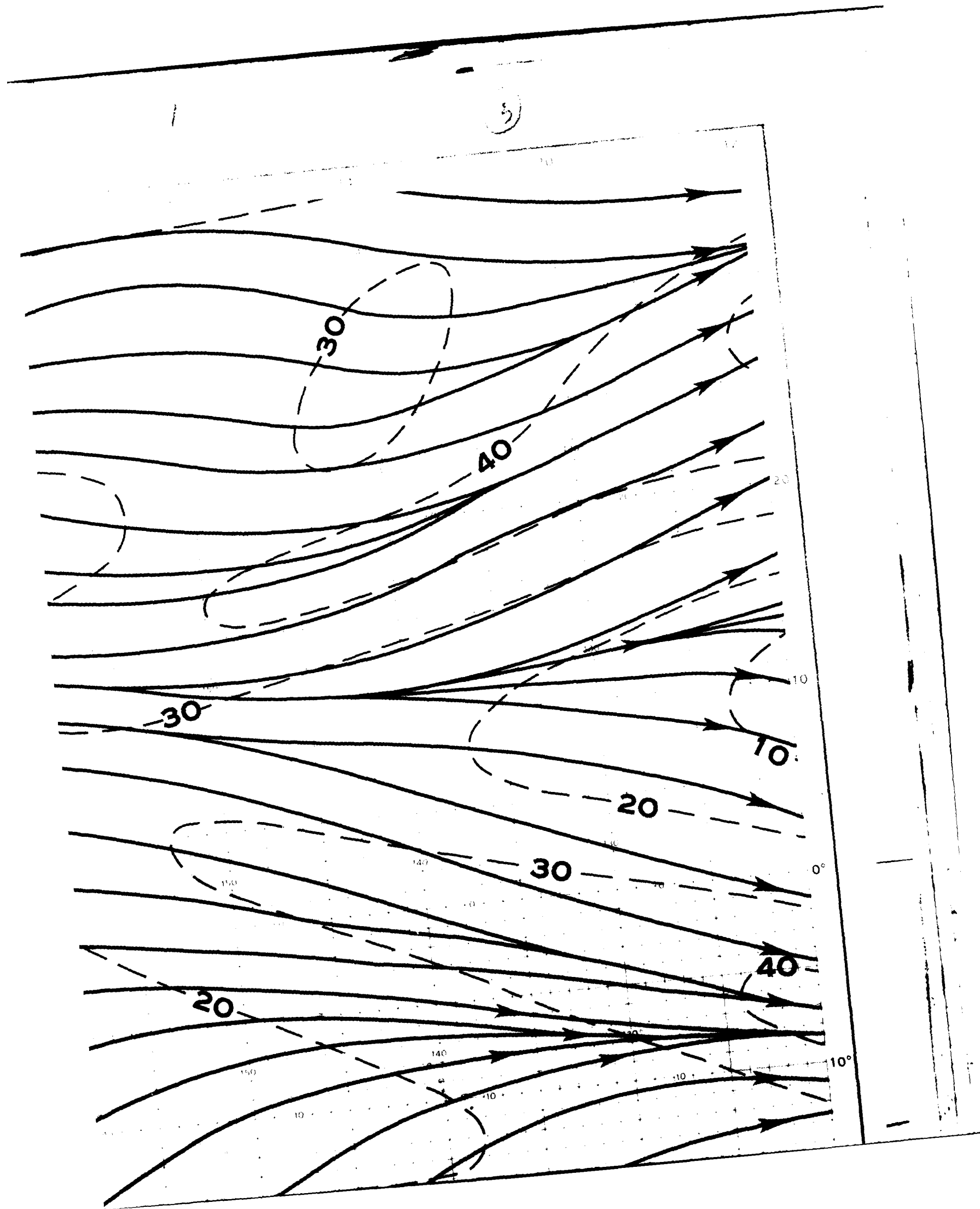


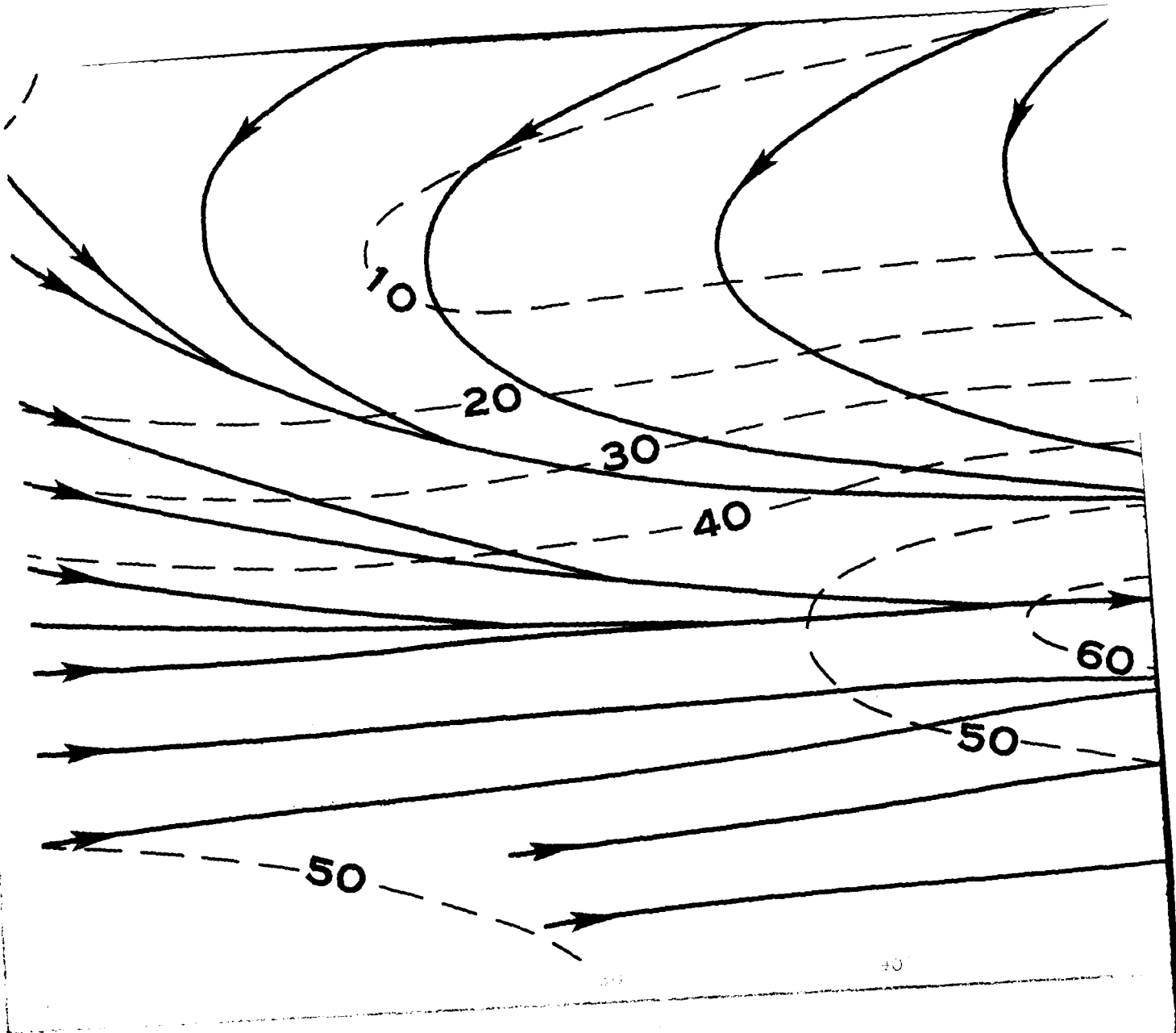
# WINDS over GLOBAL TROPICS -



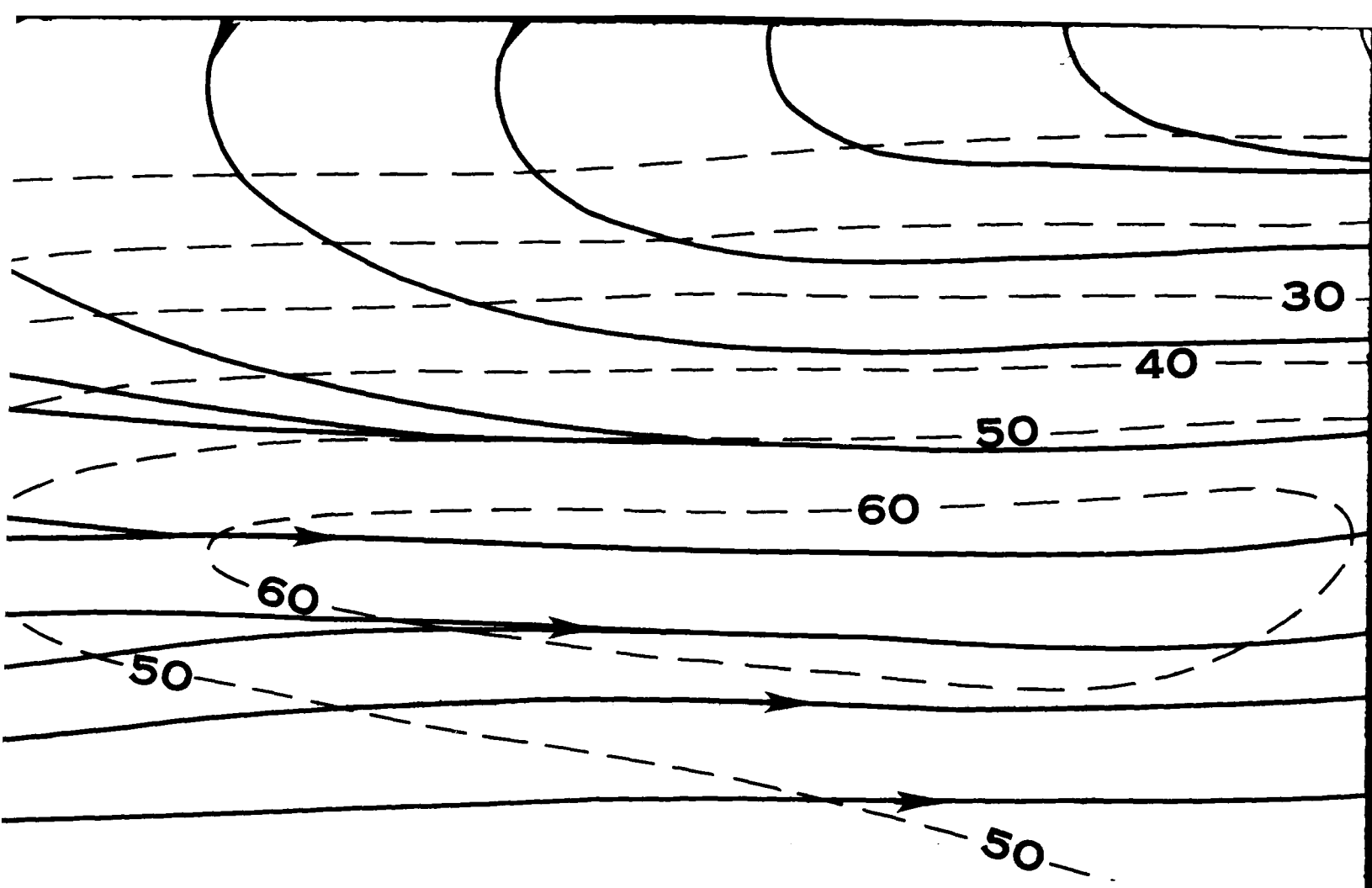
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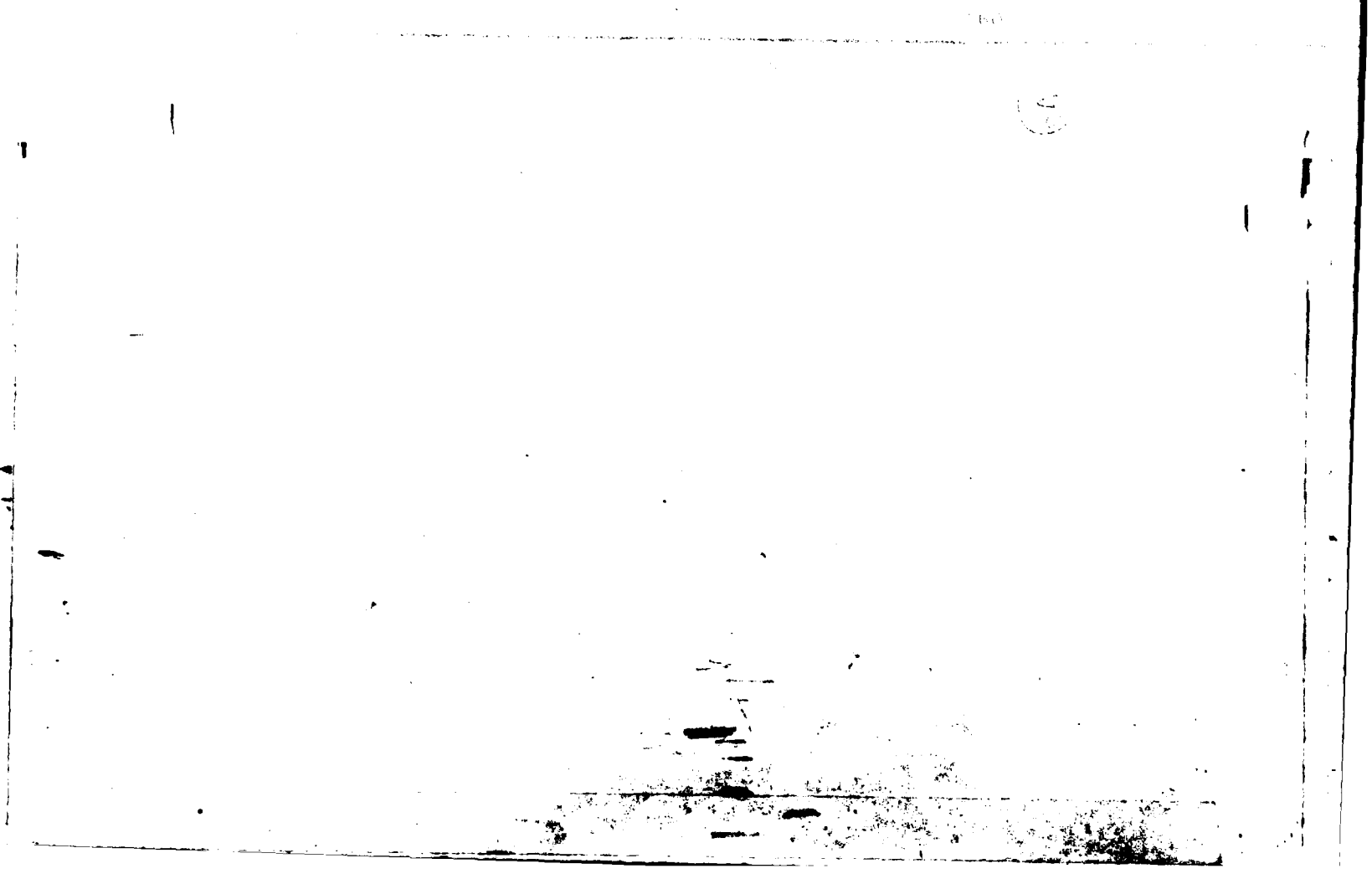
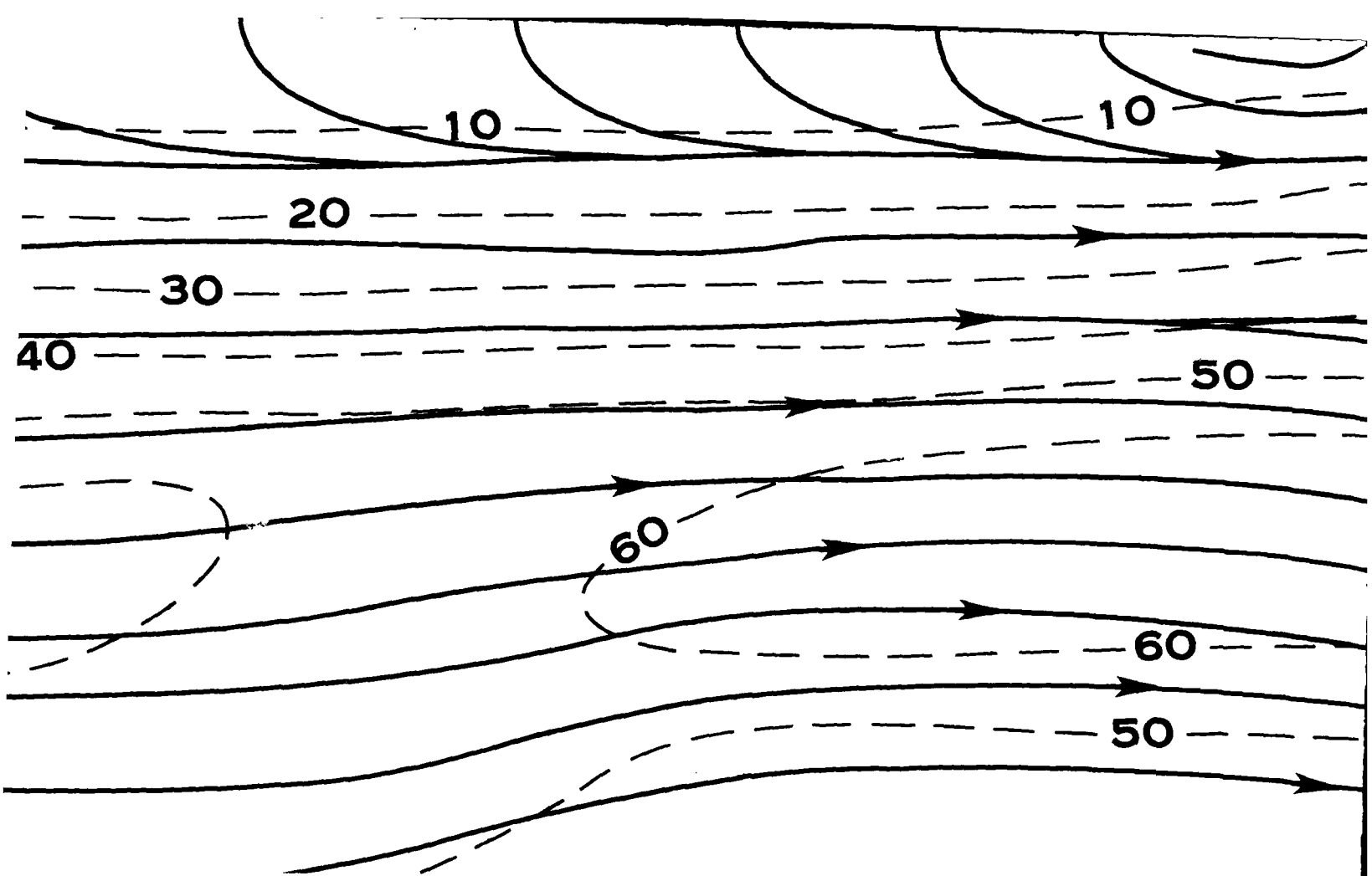


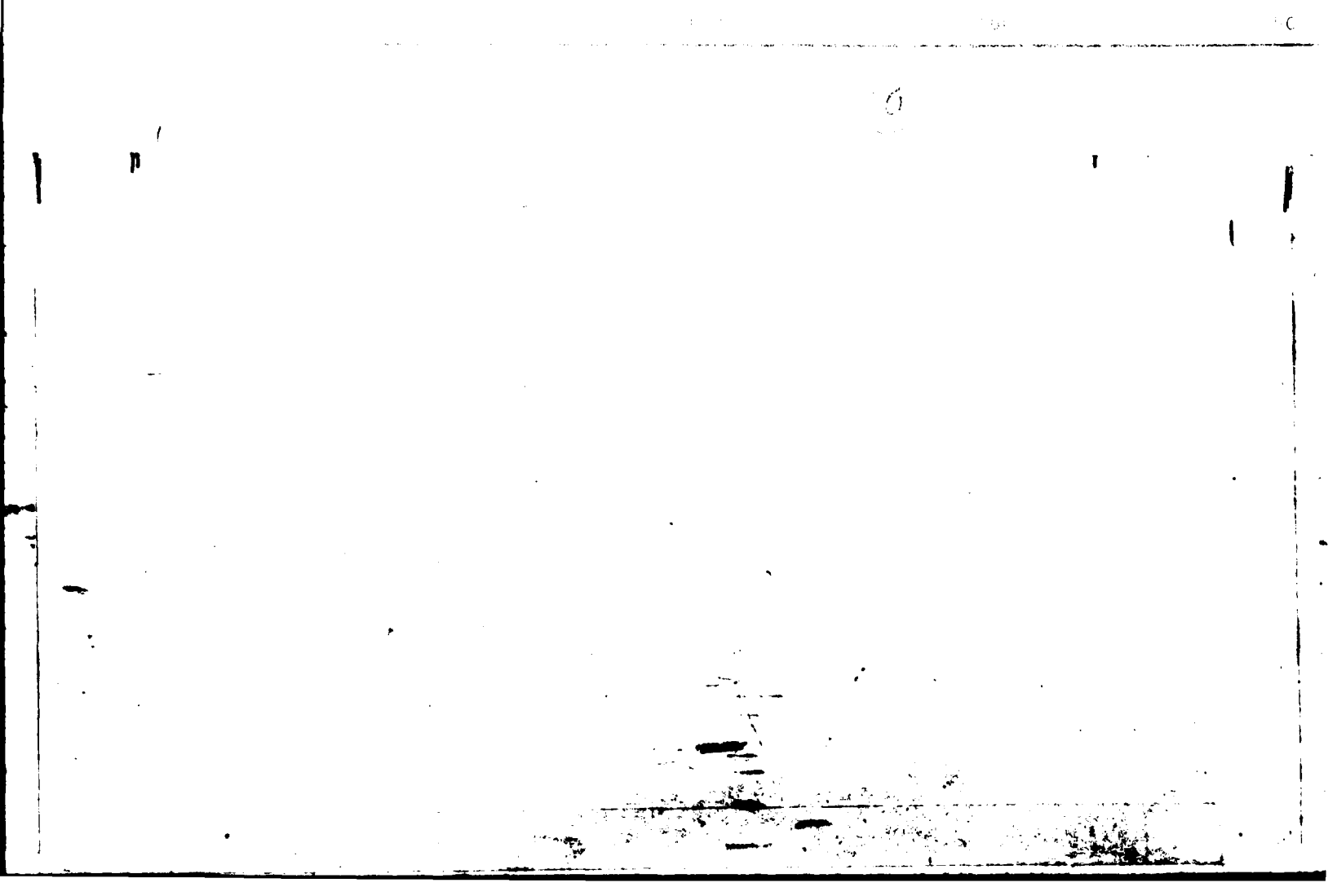
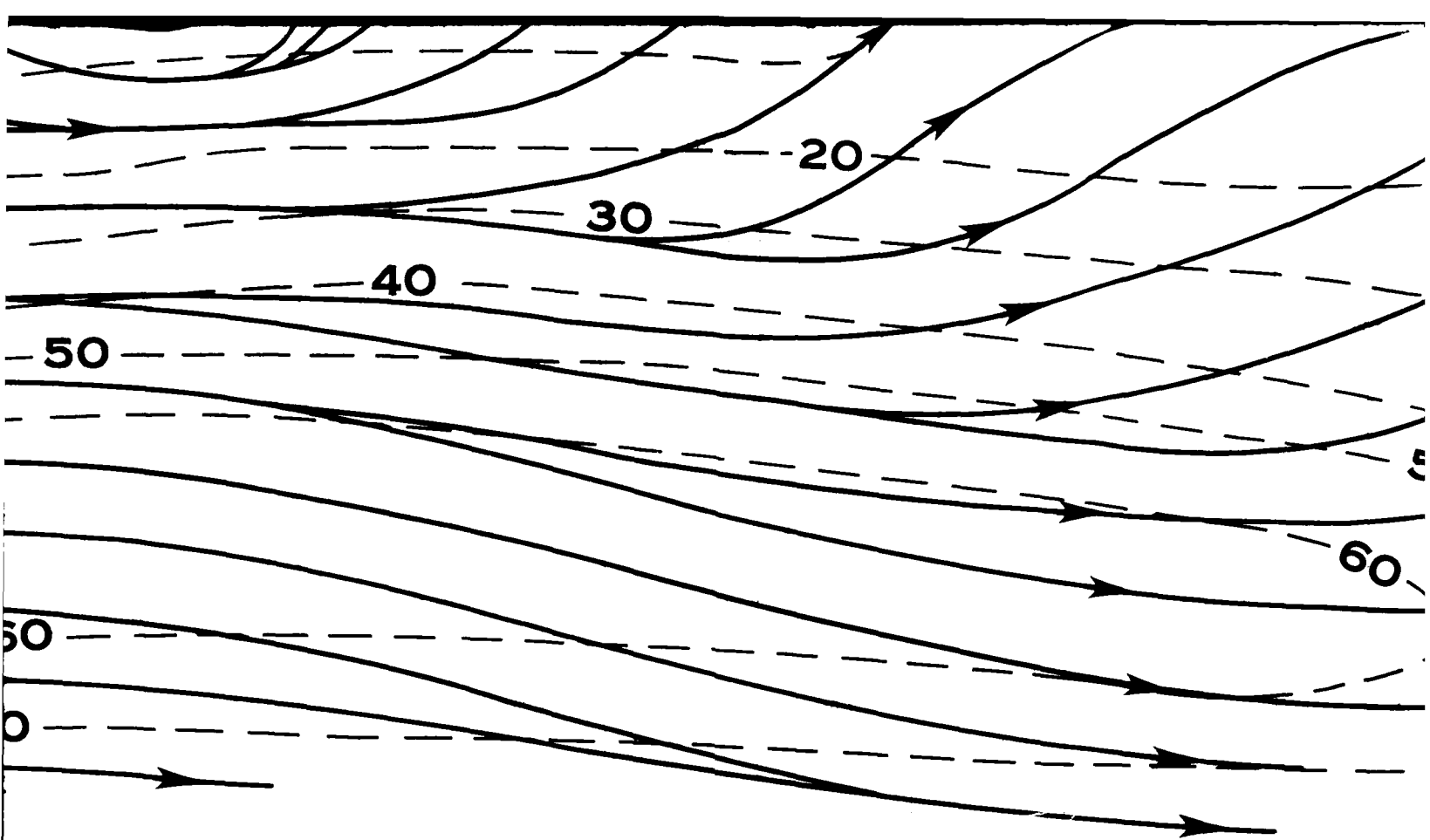


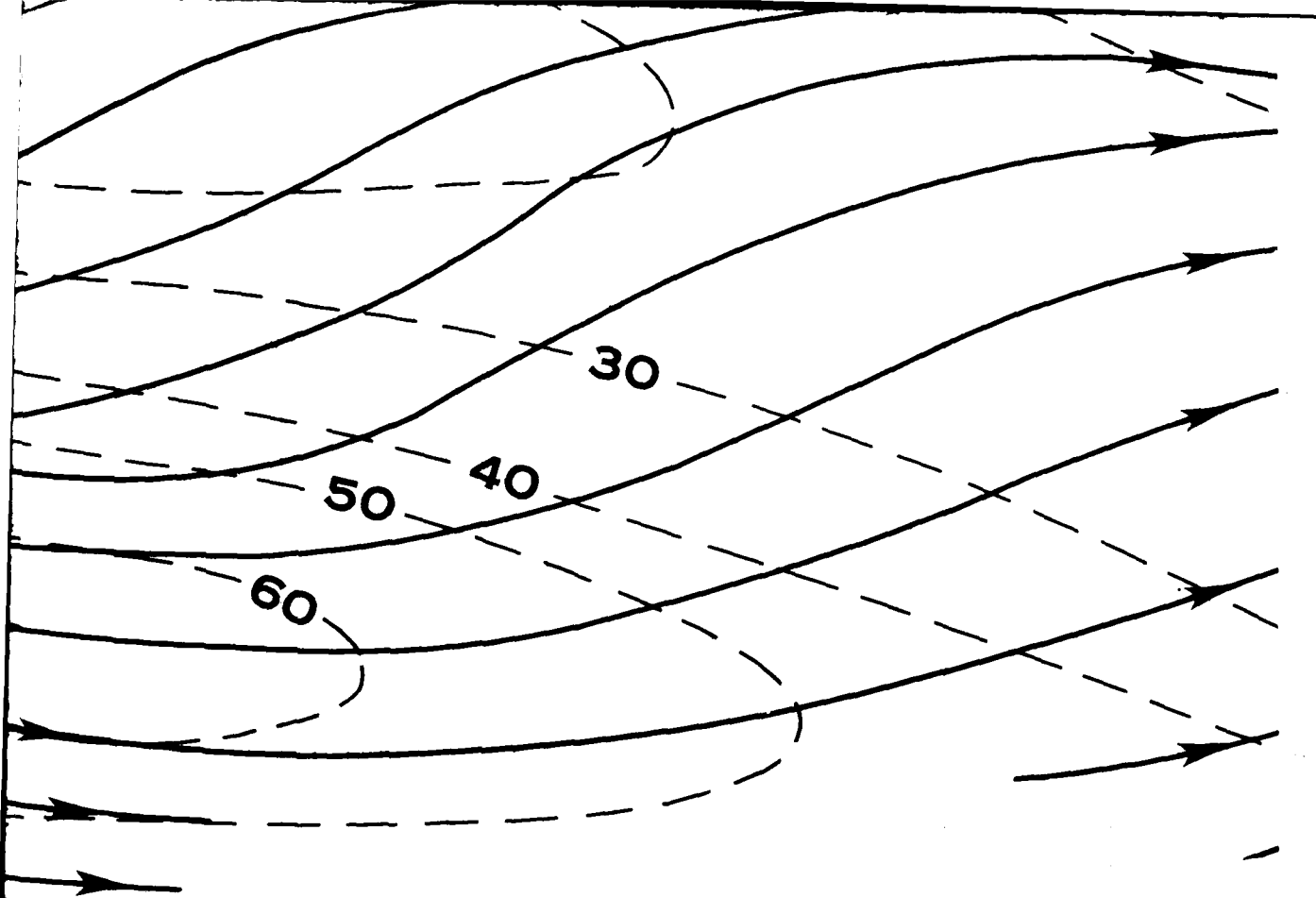
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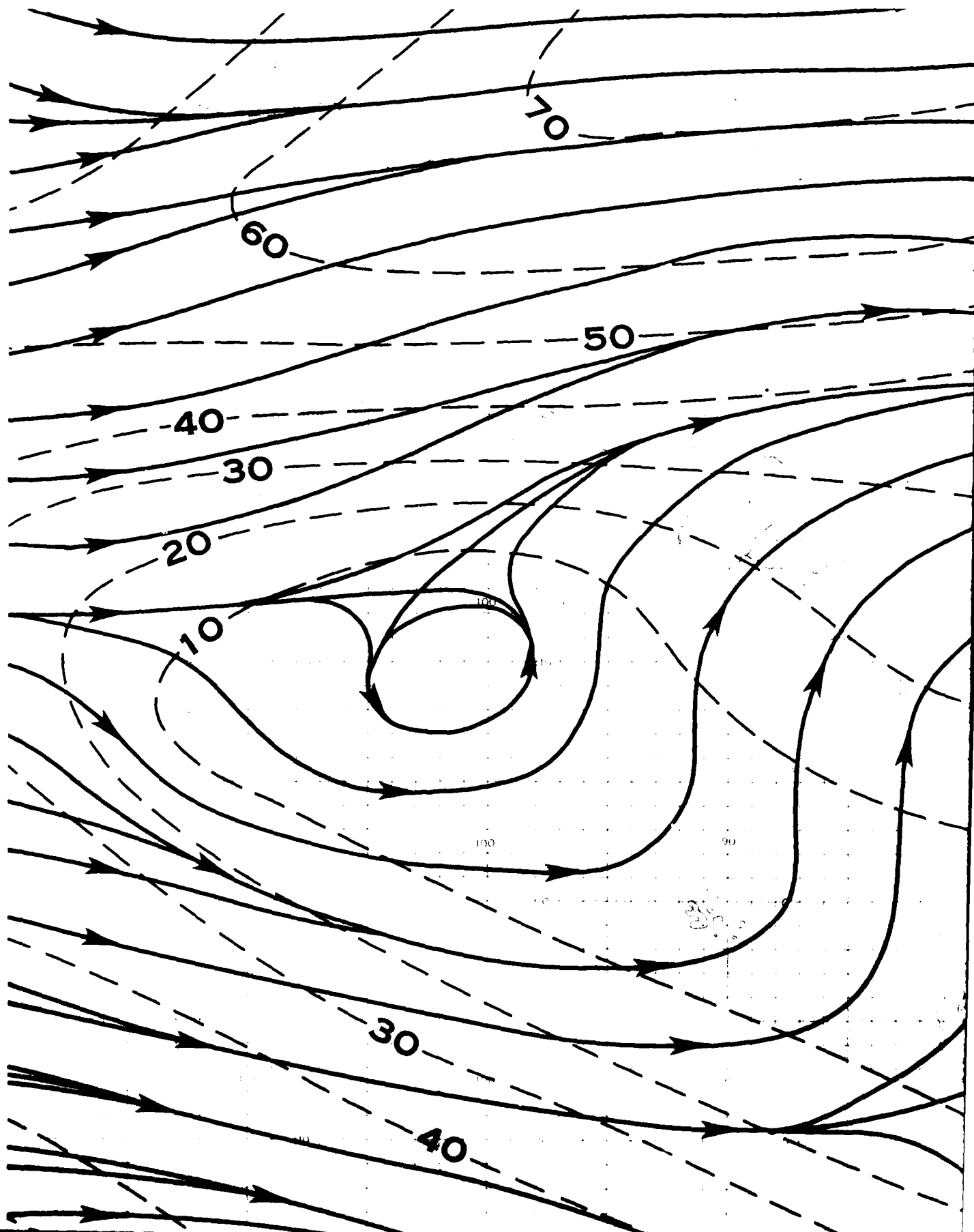




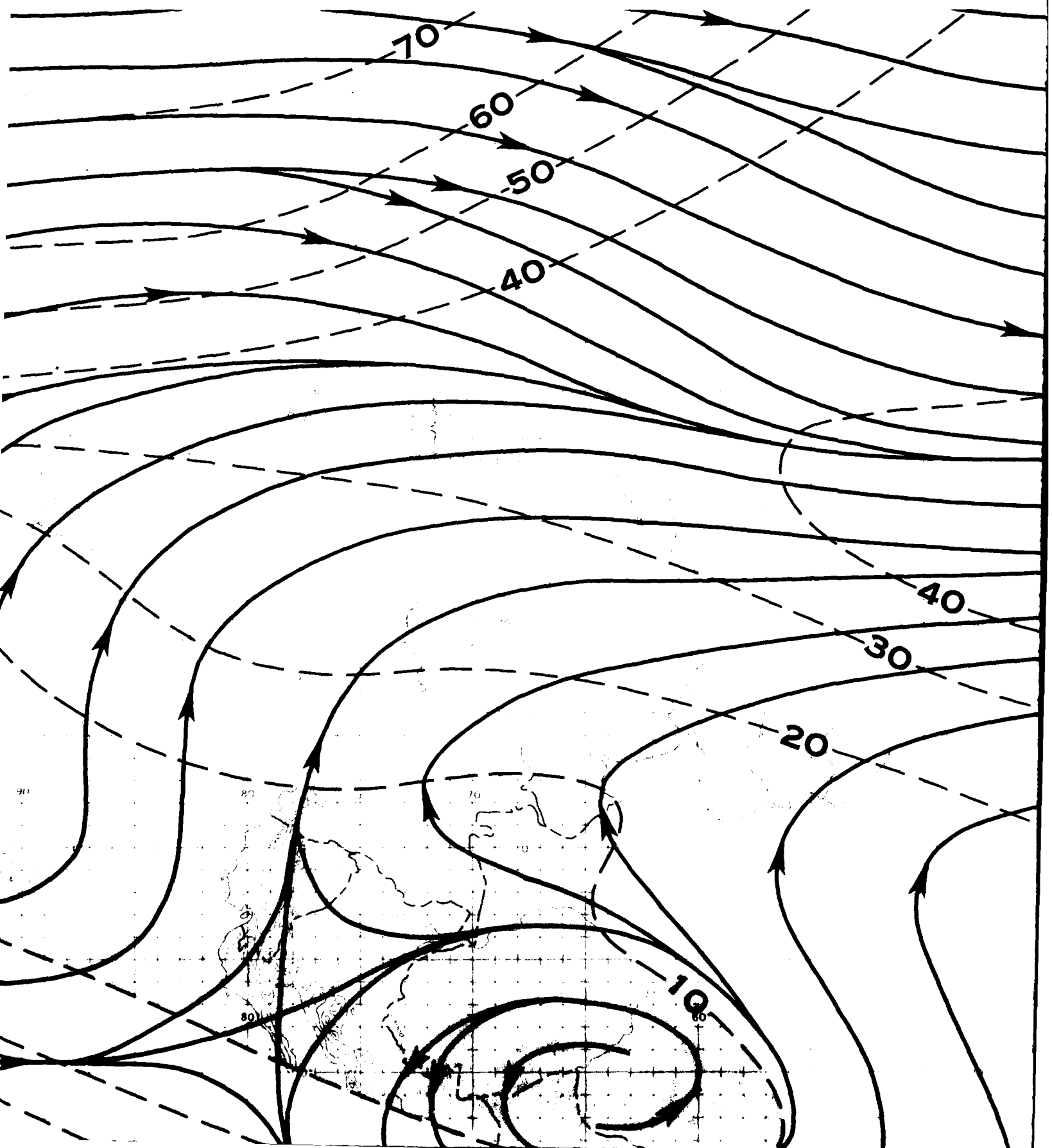


MULW-211E

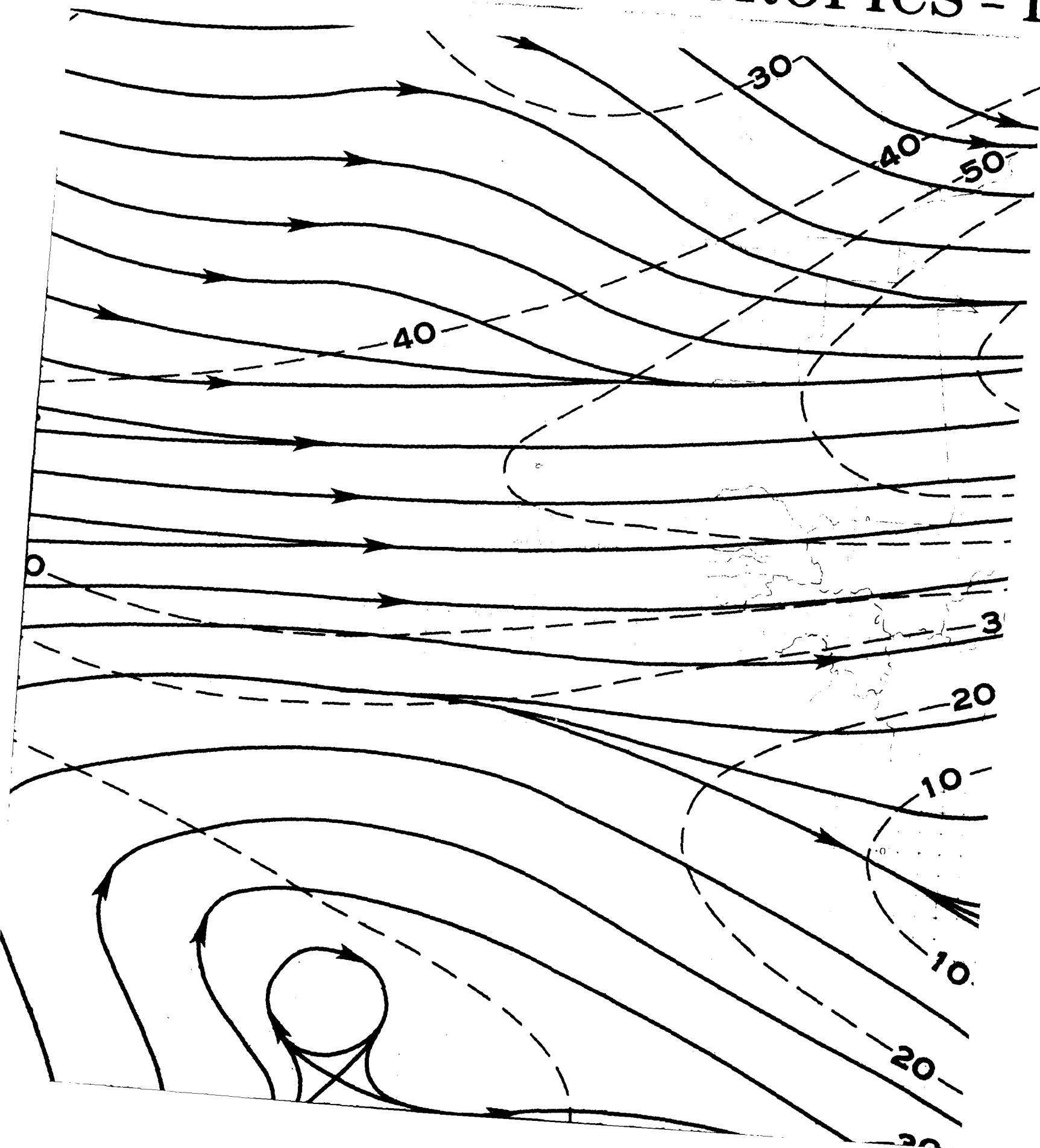




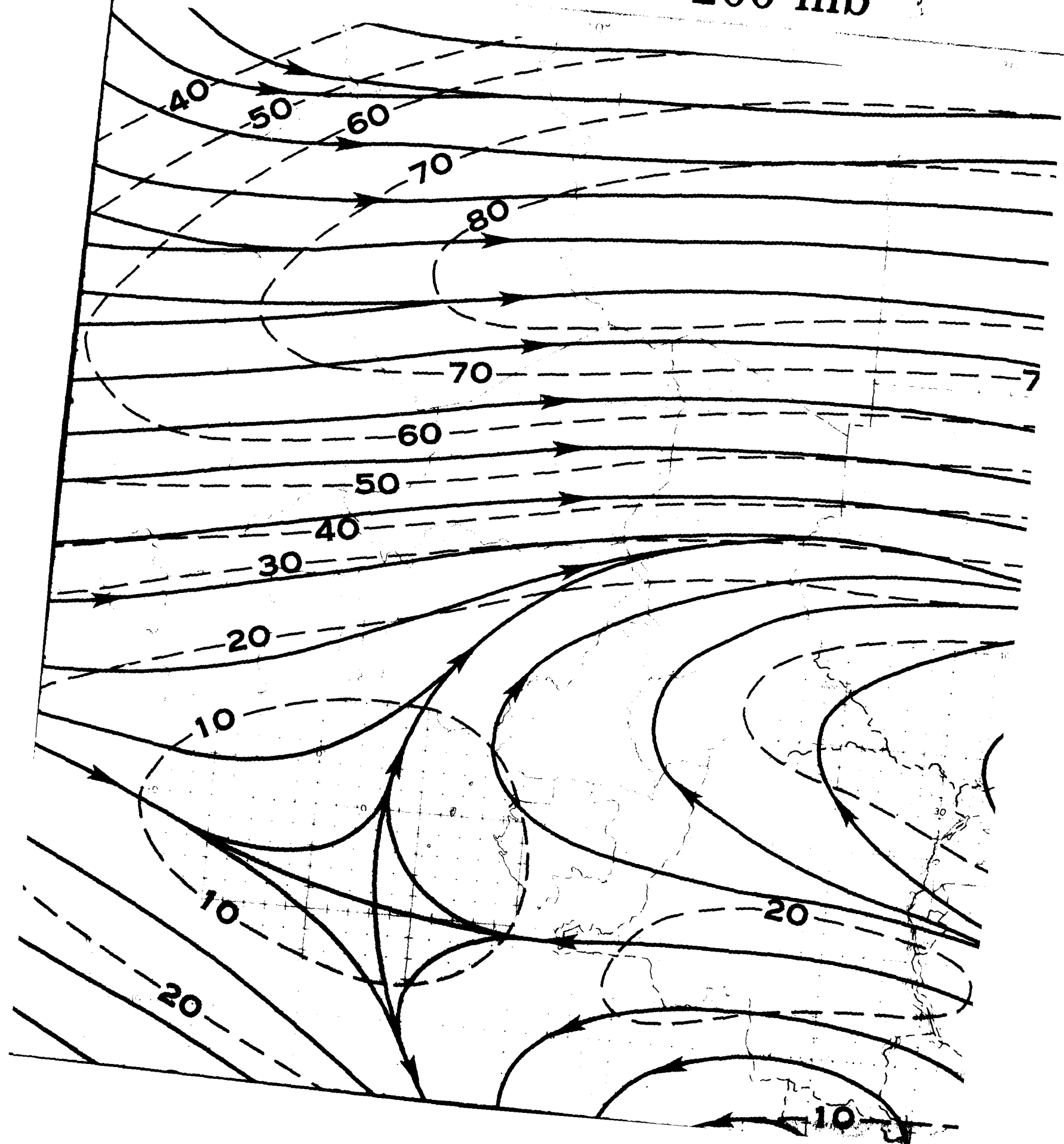
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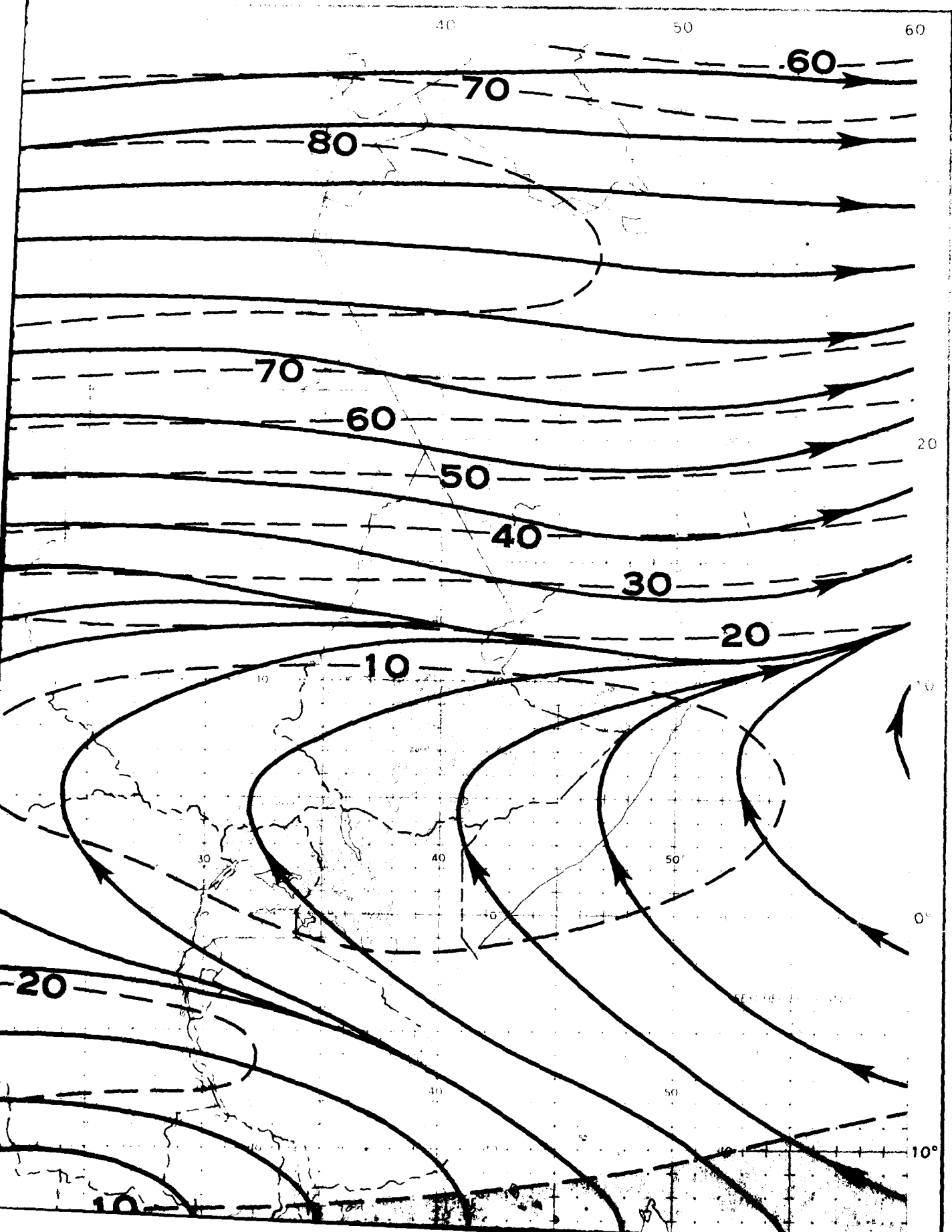


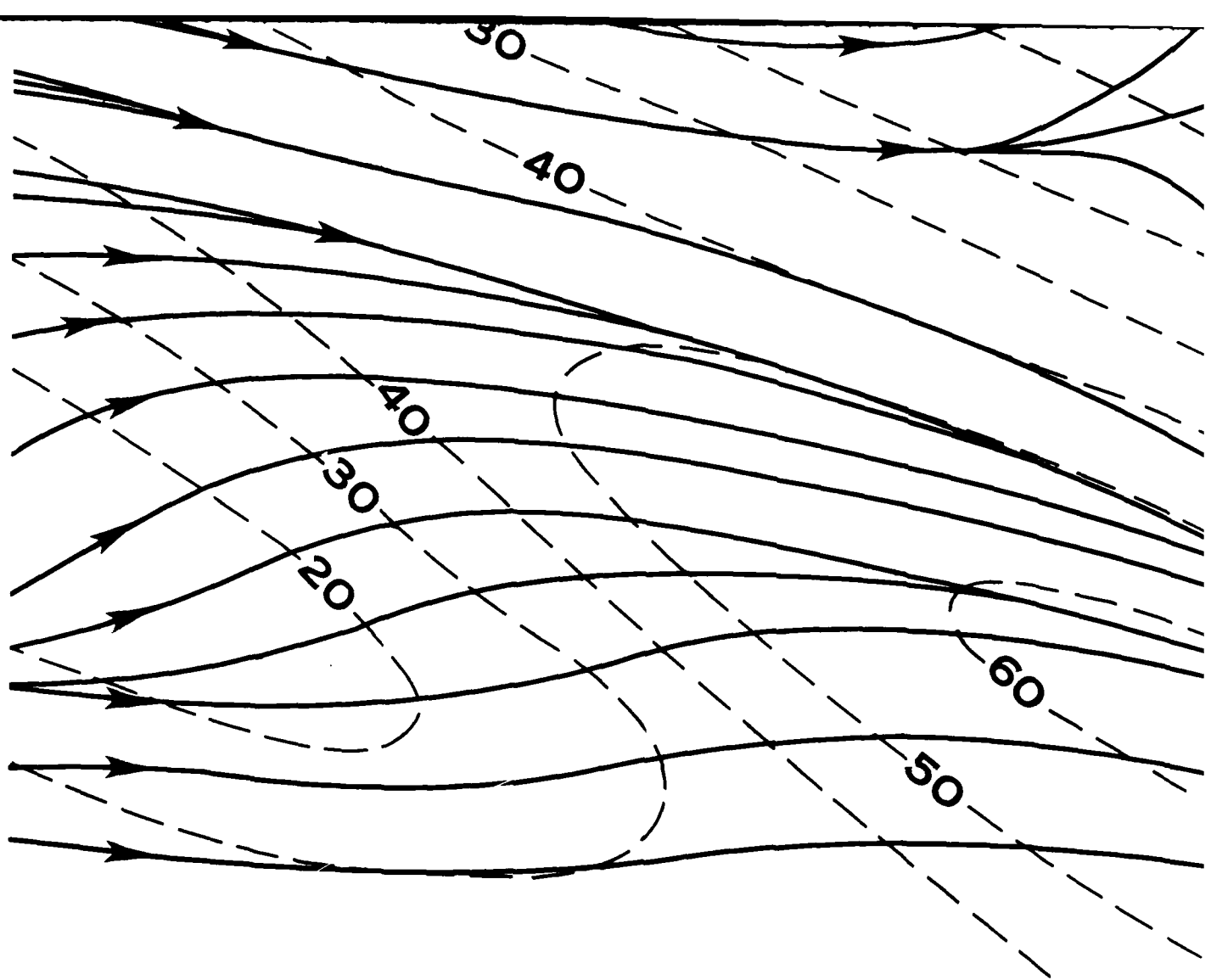
# WINDS over GLOBAL TROPICS - I

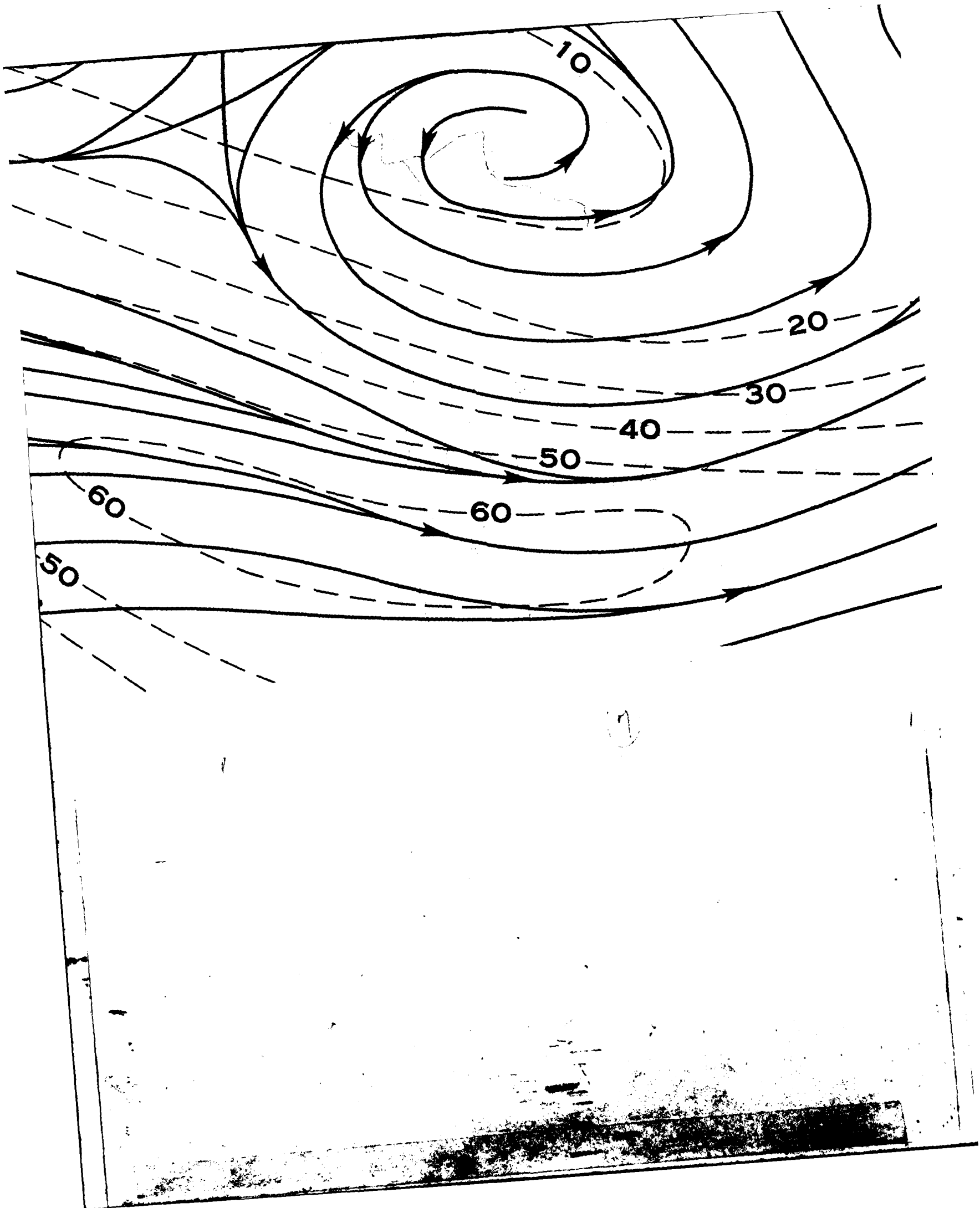


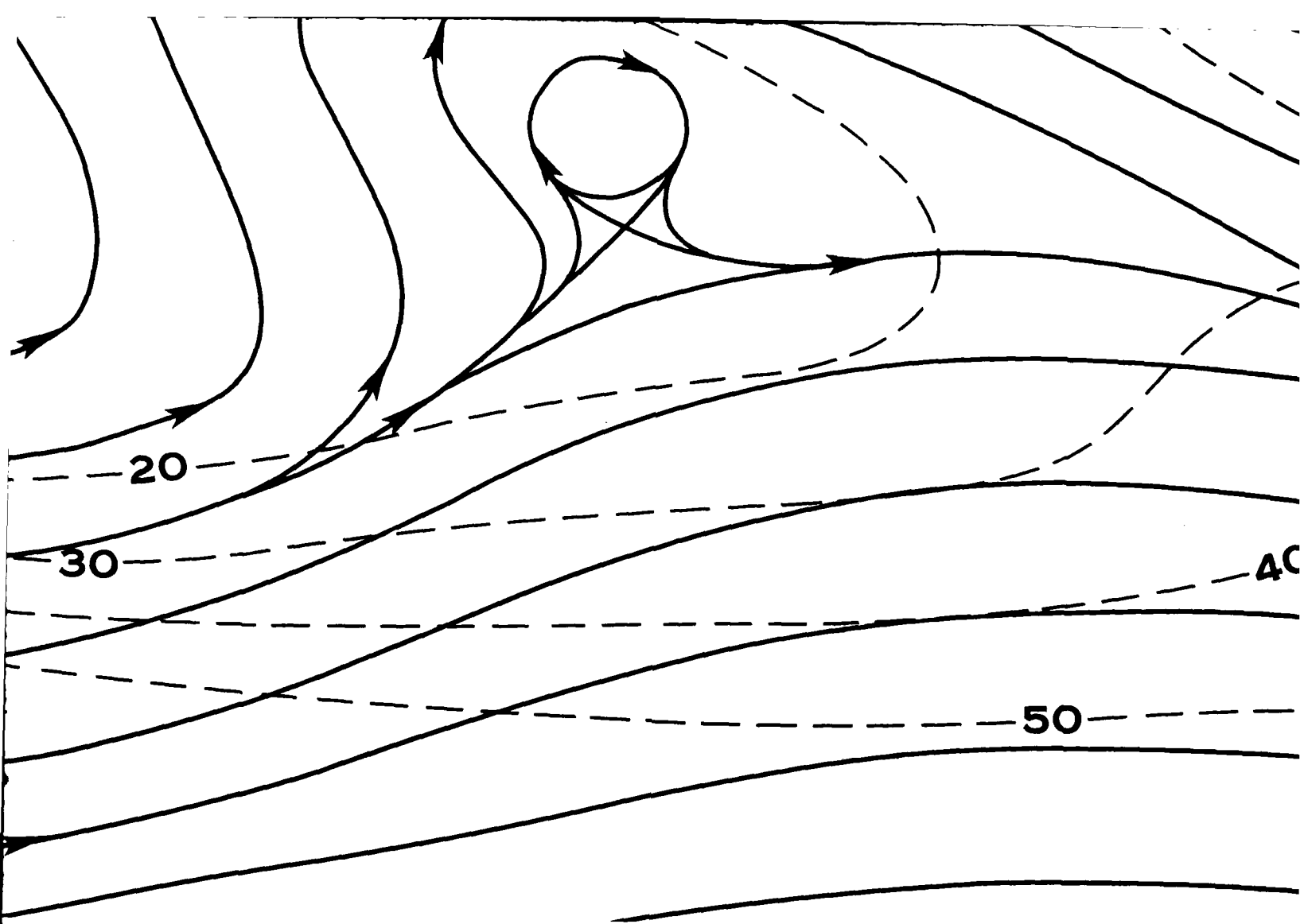
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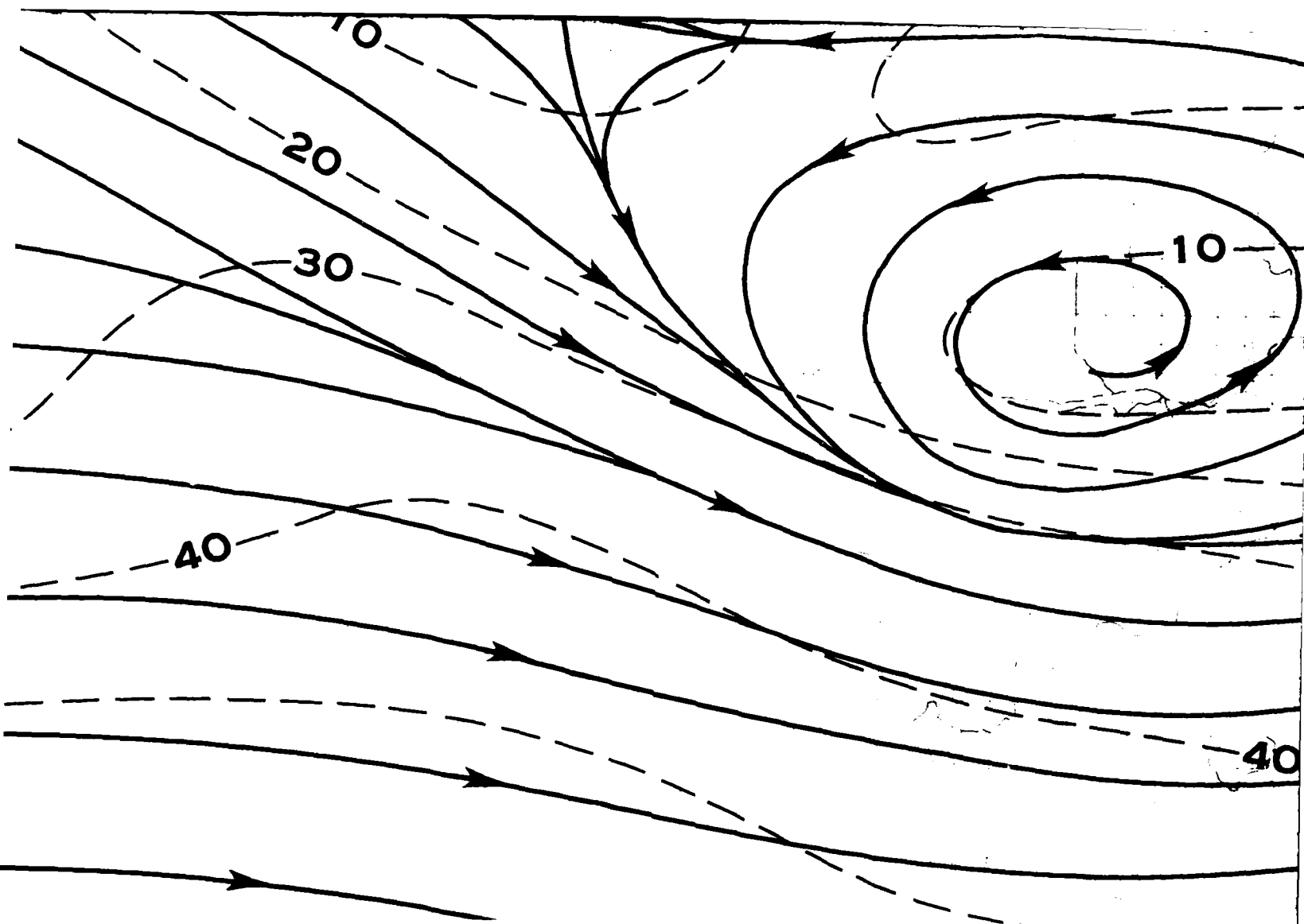




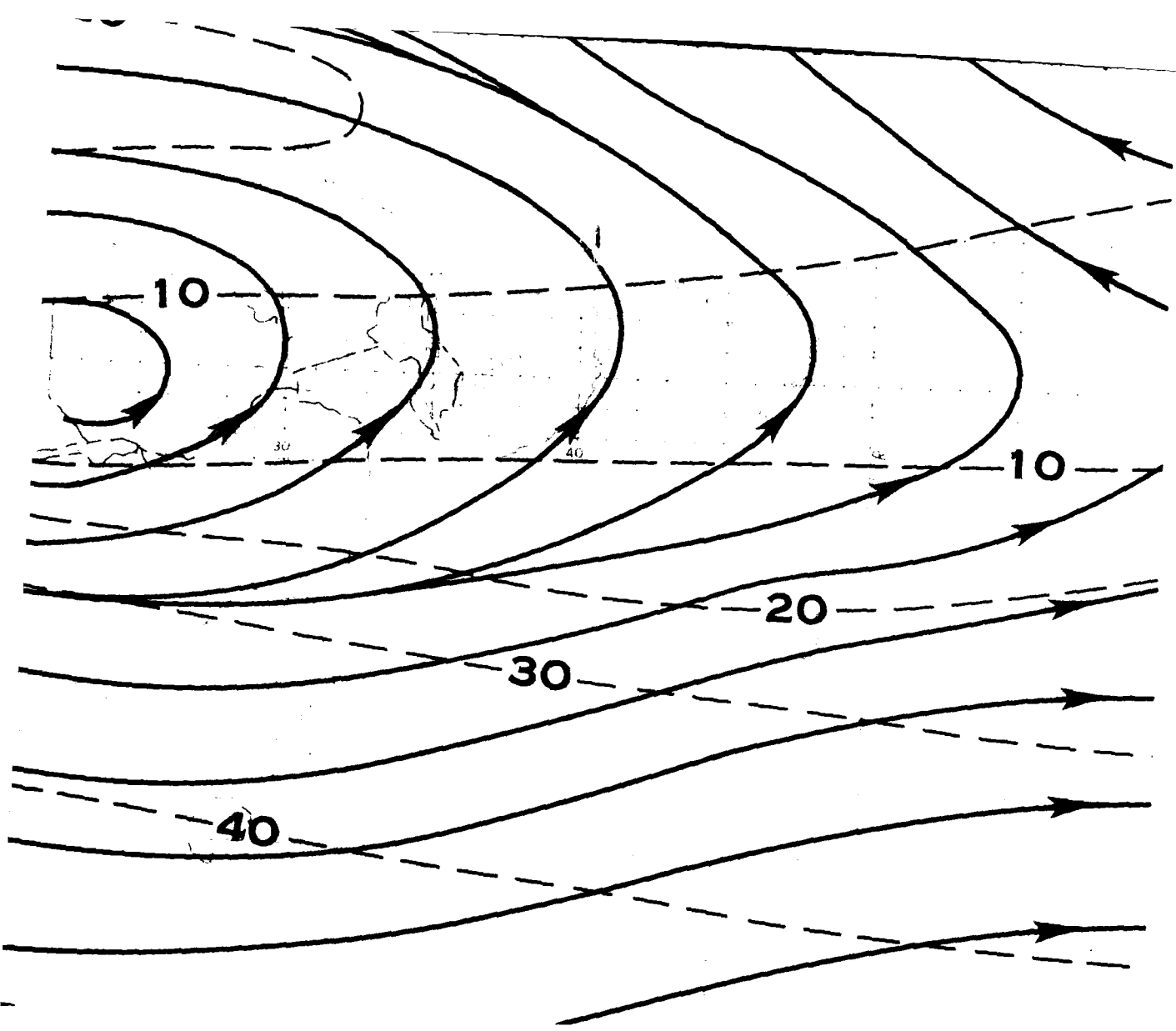








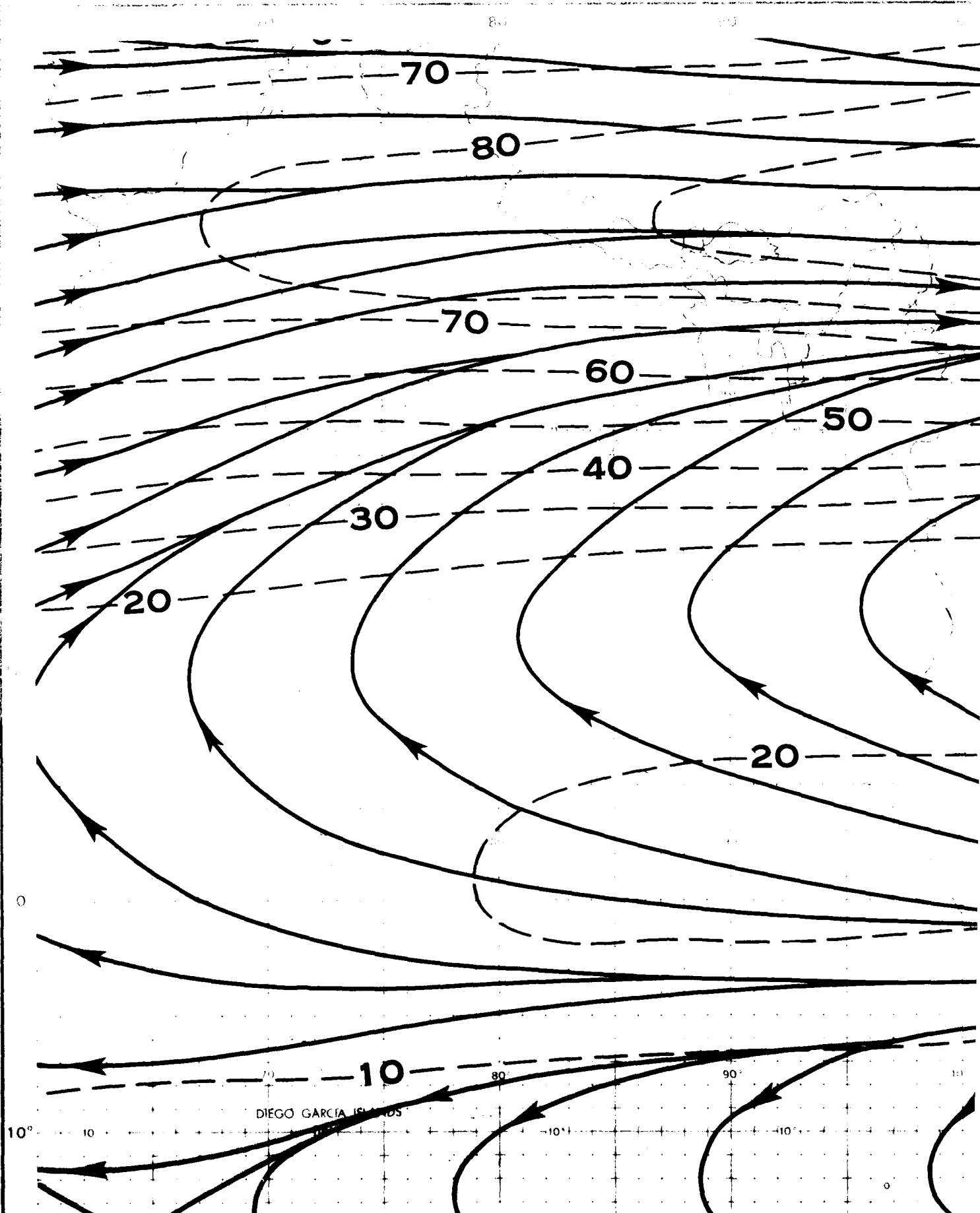
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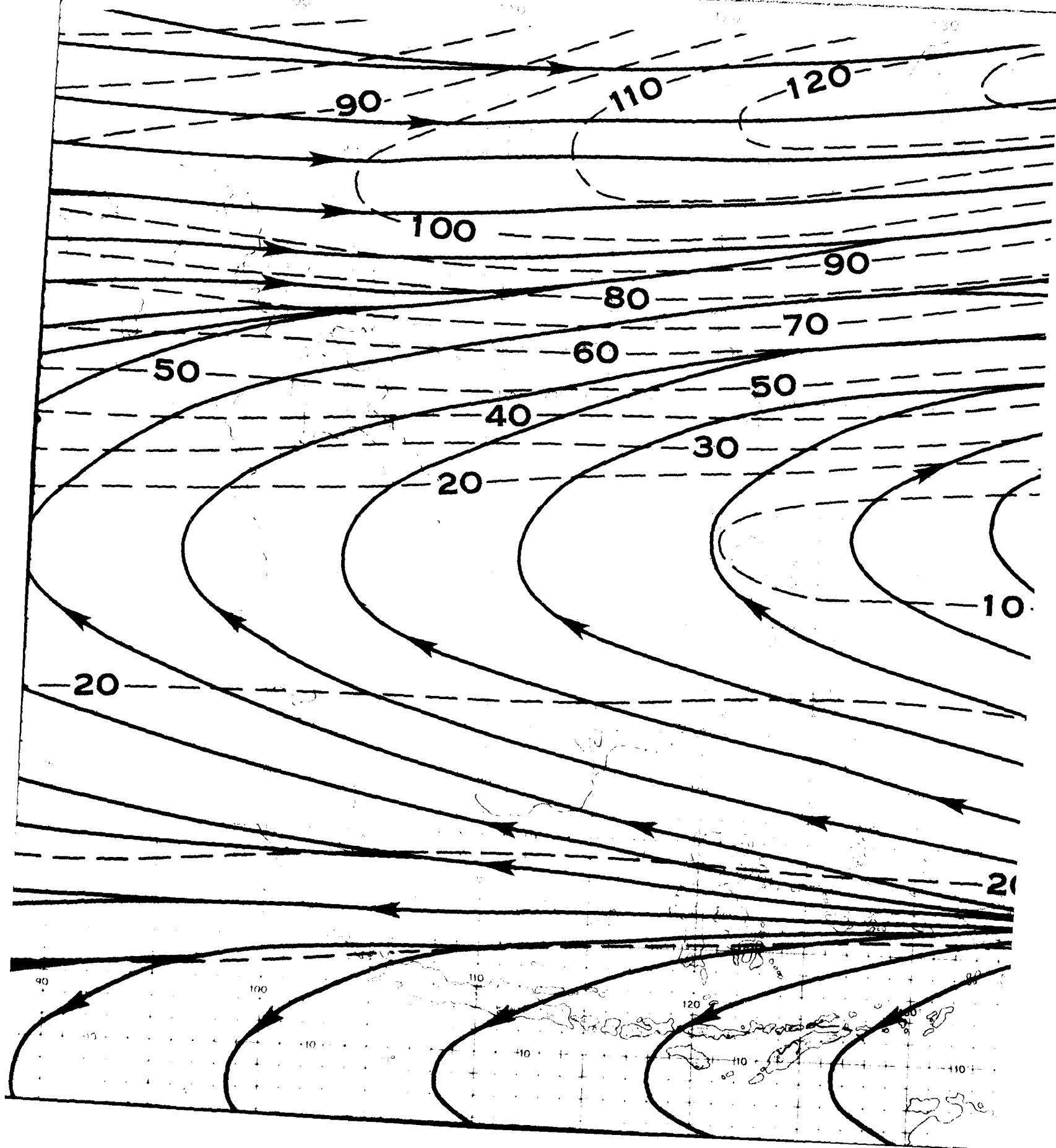
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MULW-212W

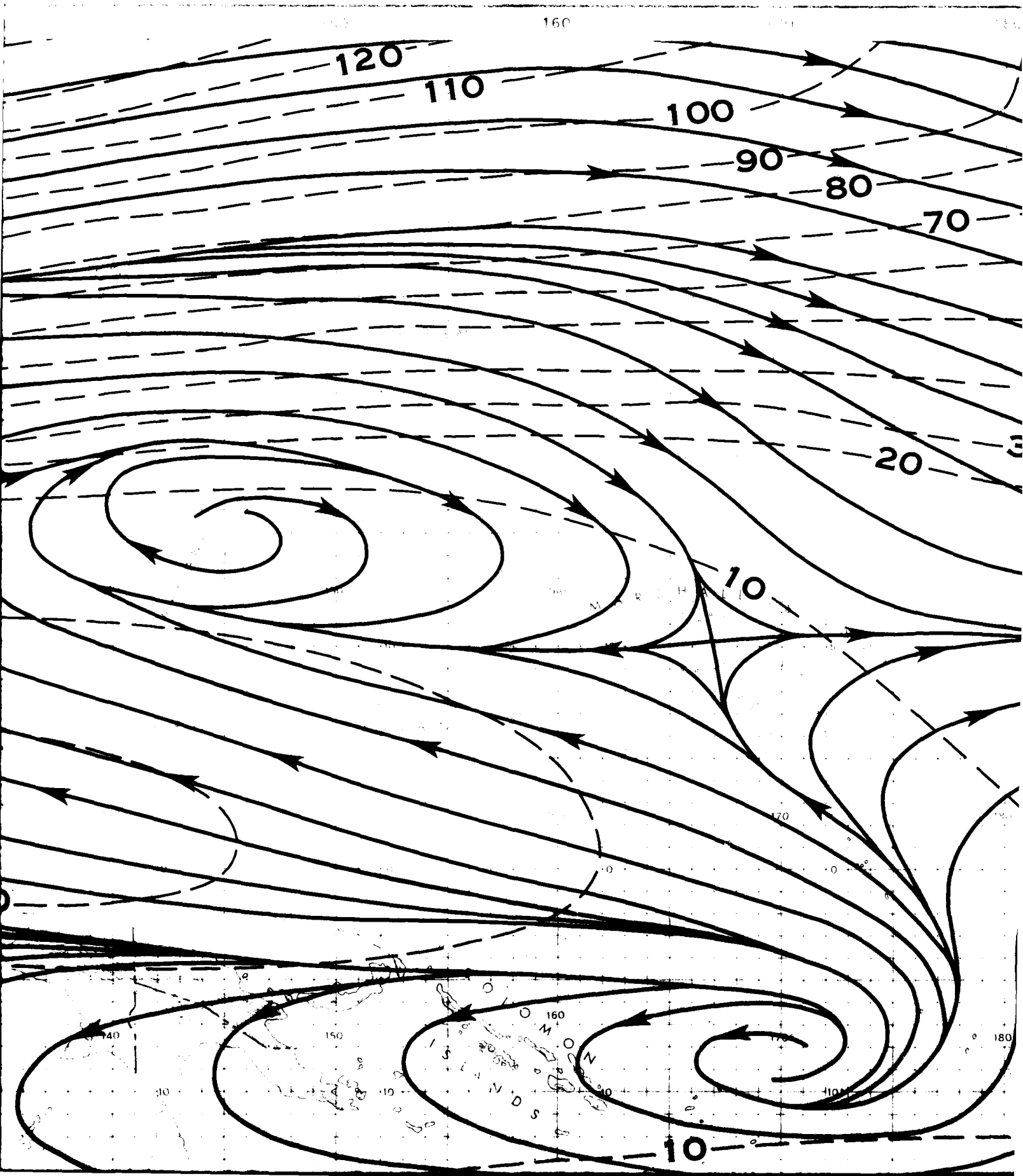
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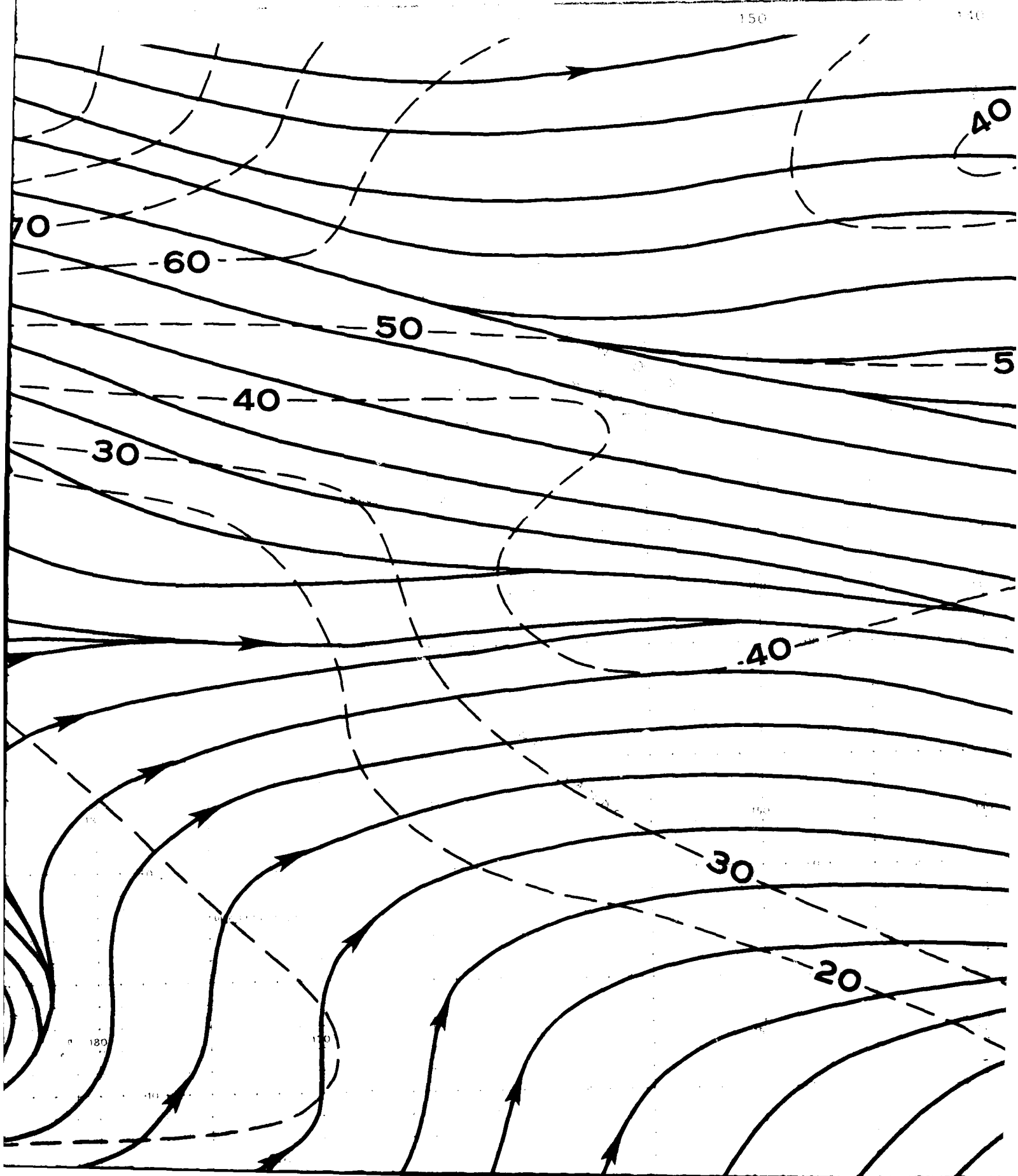
# MEAN UPPER LEVEL WIND



# WINDS over GLOBAL TROPICS - DEC



# 1 DECEMBER 200 mb



AD-A141 484

MEAN UPPER TROPOSPHERIC FLOW OVER THE GLOBAL TROPICS  
VOLUME 2101 AIR WEATHER SERVICE SCOTT AFB IL  
J C SADLER ET AL. JAN 84 AWS/TR-83/002-VOL-2  
SBI-AD-E850 690

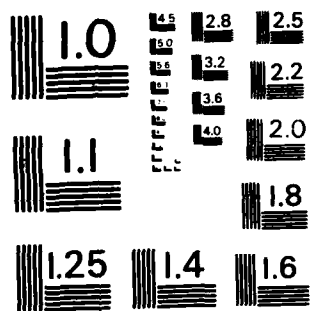
6/6

UNCLASSIFIED

F/G 4/2

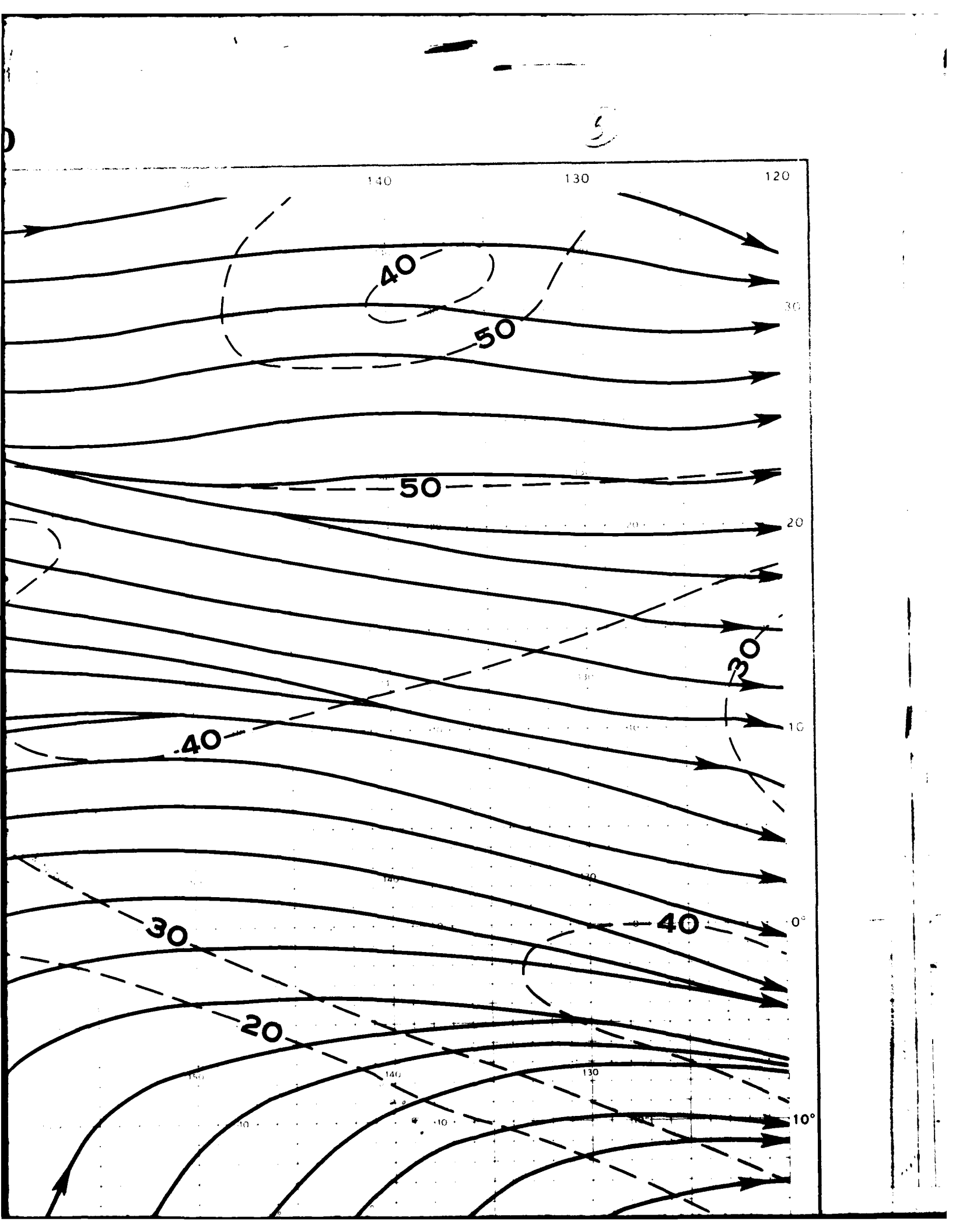
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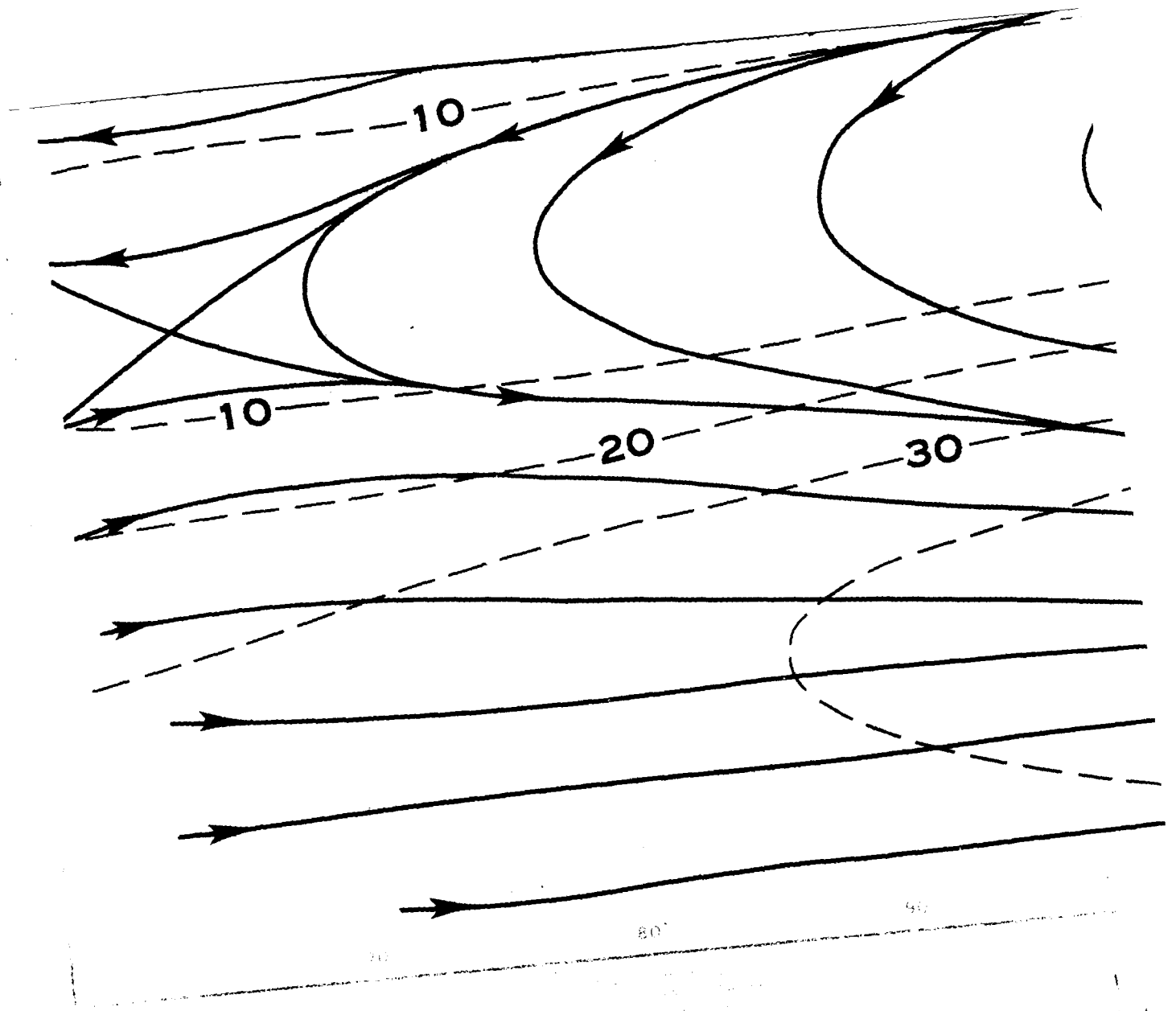
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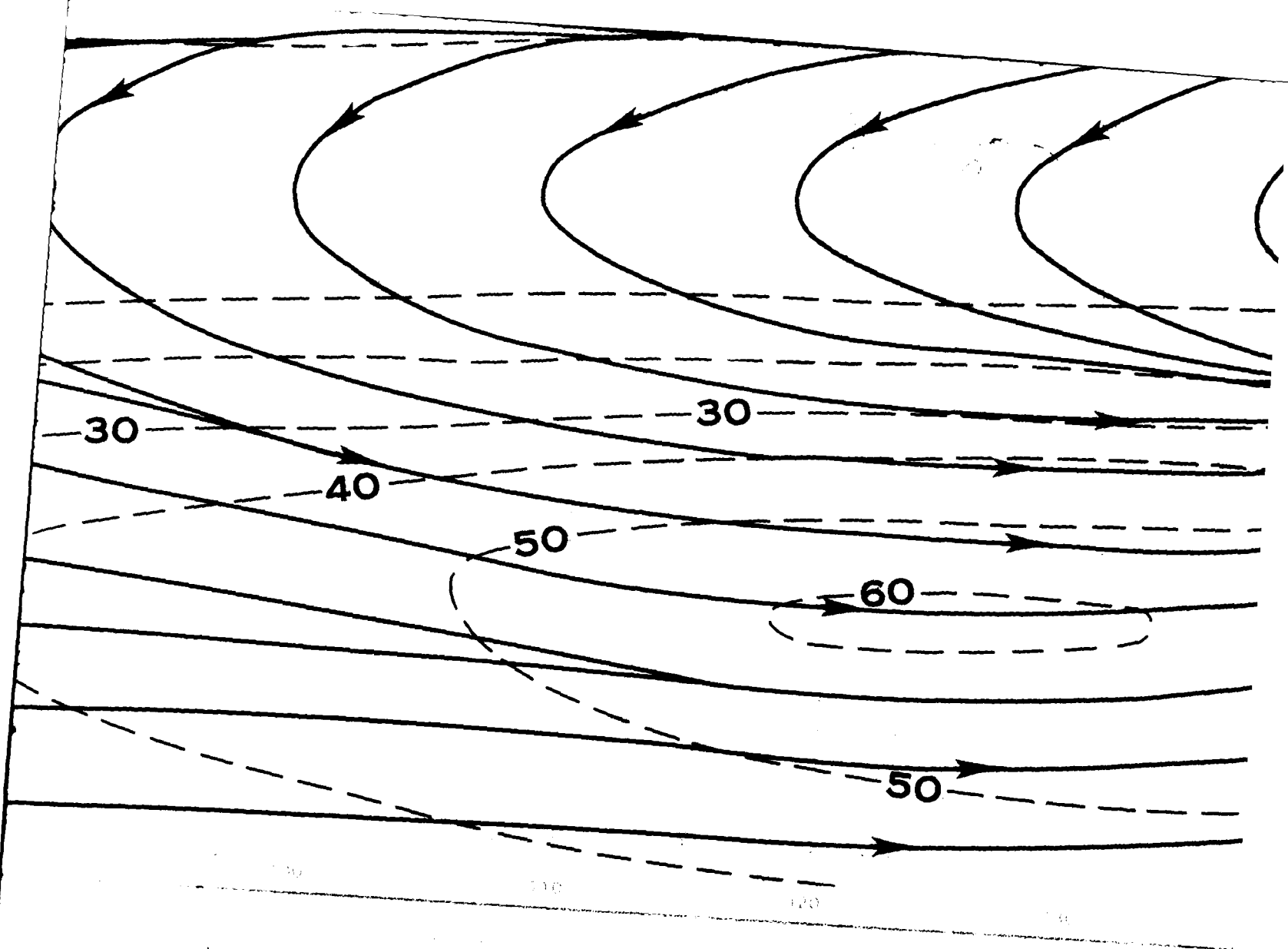
MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A



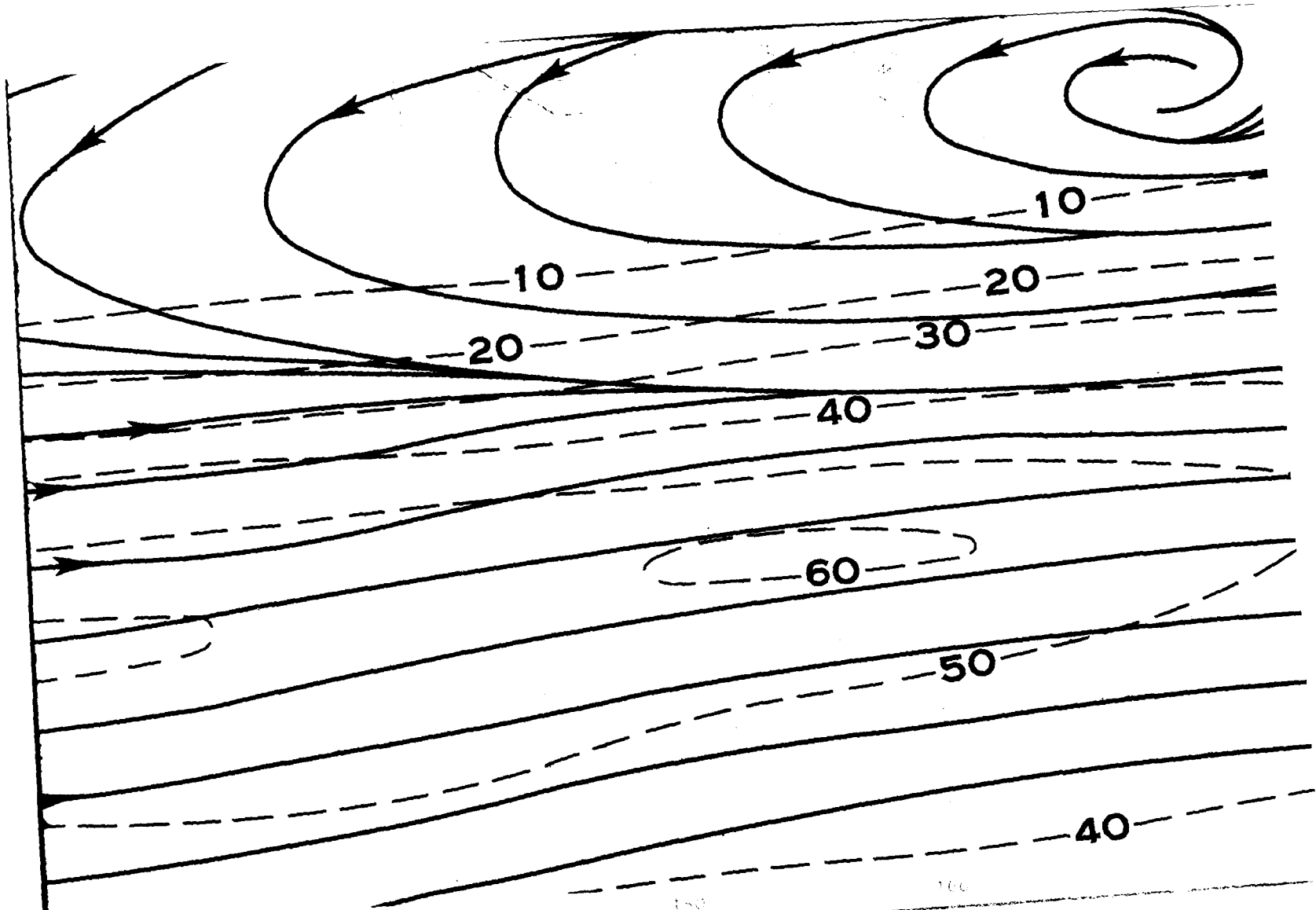


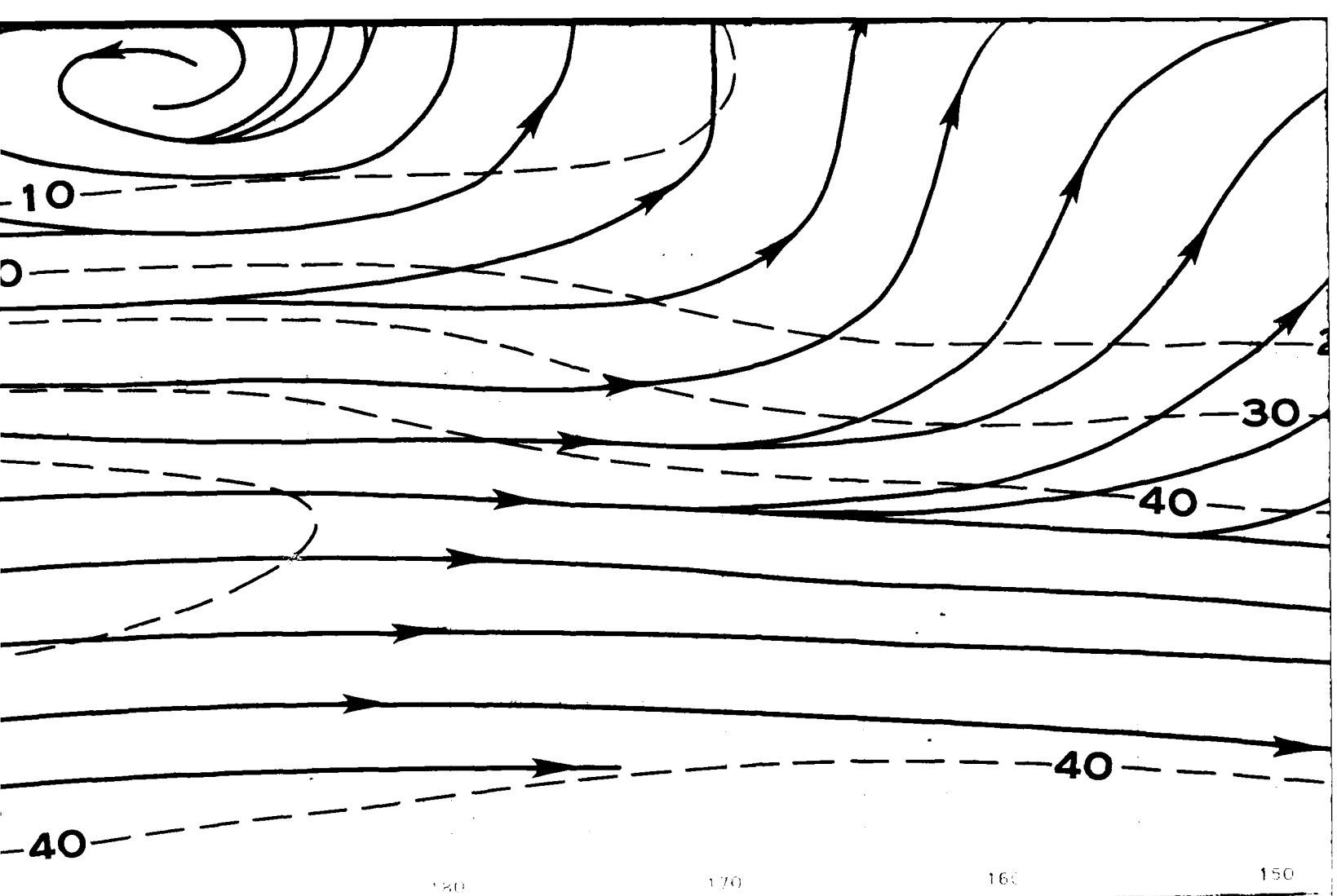


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(7)





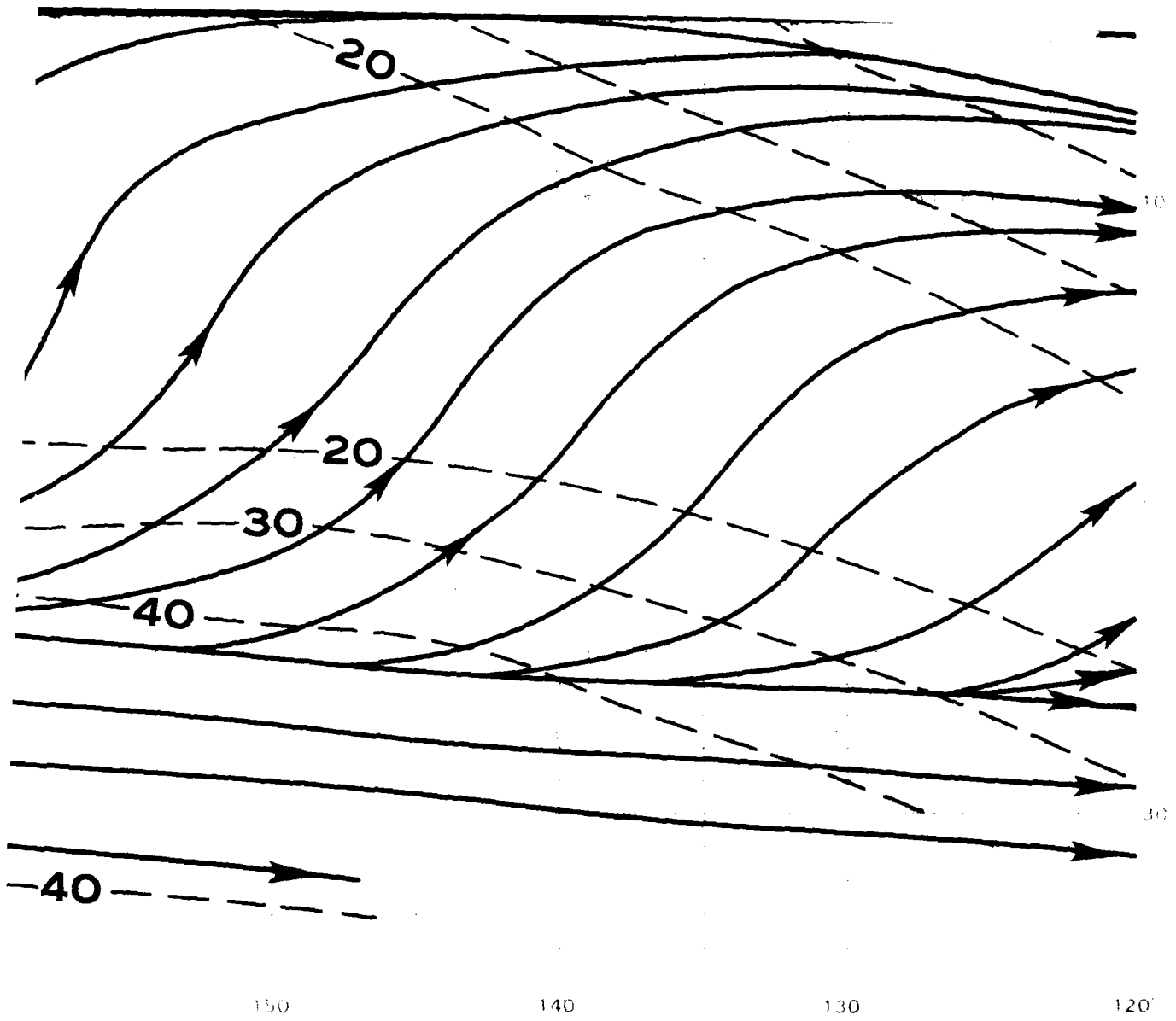
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MULW-212E

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